

THE **MODEL** **CRAFTSMAN**

NOVEMBER 1947

35 CENTS



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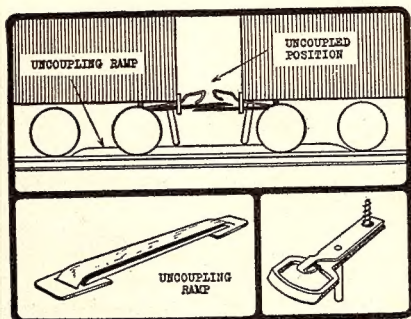
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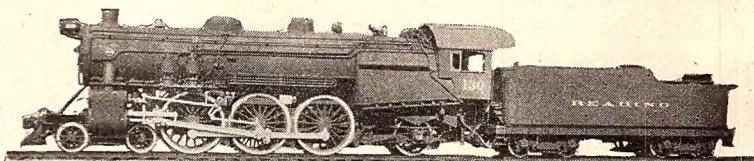
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FROM GERMANY

As I was coming home last night, I got my first copy of your excellent magazine, another example of your kindness. I hate to tell even women compliments, but I must say that your magazine surpasses even my greatest hopes. It does seem a bit strange though, as I am not familiar with the American type of Railroading, even in models, but I want to compliment you for the fine workmanship.

Over here in Europe, modeling is dead. I do not know why people are less interested, as it distracts from everyday worries. I might add that Continental firms who are building tinplate and accessory equipment do not add too much on promoting hobbies. For instance, I do not know any firm that retails hobby supplies, or any manufacturer of complete kits. Before the war, Marklin was a famous company and in their 1938 catalogue brought out 11 types of OO locomotives and about 40 types of O gaugers. At a recent export fair in Stuttgart, they could show only one set of their "almost" scale OO trains, with no scenery or accessories. Before the war on my home pike, we maintained both an outdoor and indoor service, together with three terminals and three divisions. You might think it costly to operate an outdoor layout in winter, but we made some easy solutions which I will send in to you as a maintenance article.

I wish to show my gratitude somehow for your kindness, if ever I can, please let me know. . . . *Ivan Loiglo, Bavaria, Germany.*

CRATER BEFRIENDED

I am writing you these few lines to express my appreciation for your improved "Post-War" magazine. I also would like to come to the rescue of Warren Crater, who was assailed by Reader Laramie in your September issue. As was stated in the "Lehigh Valley Mikado" article, many features of an engine are altered from time to time as it returns to the shops. Consequently, it would be almost impossible to locate many of the details so that they would agree with a photo in the possession of a reader. To me, the main thing that a model should retain is the form and outline of the prototype. This practice results in a good clear easy to use drawing, and it is always easy to locate your piping and other details from photos.

My chief interest is in the fast-vanishing "Mother Hubbard" and so naturally

THE MODEL CRAFTSMAN

RAMSEY

NEW JERSEY

Including "THE MODELMAKER"—Est. 1924 and MINIATURE RAILROADING Magazine

EDITOR AND PUBLISHER *Charles A. Penn*
ART DIRECTOR *Walter A. Stalter*
ADVERTISING MANAGER *James H. Thompson*
RESEARCH EDITOR *Louis H. Hertz*

Field Editors: Railroads—L. W. Sagle, H. L. Adams. Race Cars—C. A. Penn.

VOL. 16, NO. 6

NOVEMBER, 1947

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I am very grateful for Mr. Crater's series of articles. Until now I have always found Mother Hubbard plans very hard to obtain. At the present time I am building an Atlantic from Mr. Crater's plans in HO. I have to change the method of construction somewhat, but nevertheless, the conversion does not give me much trouble.

Keep up the Mother Hubbard Series, they are ideal. . . . *E. Van Patten, Schenectady, N. Y.*

MAGAZINE GOOD, BUT??

I wish to express my satisfaction of your recent issues of M. C. which has been steadily improving along the Model Railroad field. Keep up the good work with more and better articles.

Having been a constant reader since its beginning, I have noted with distaste the swing to other hobbies, but had hopes that you would not desert the model railroaders. In those early days, the 15 cent issue was comparable with today's. Improvement was followed by increase price to 25 cents, at which time you had the best magazine in its field. Recent publi-

cations, during the past year or so do not match those prewar issues. Your latest price increase is unquestionably out of line in comparison with the contents.

Having said plenty, wish to take time to say I enjoy your magazine very much. . . . *William C. Wright, Philadelphia, Pa.*

WE PLEASED HIM!

May I say thanks for the fine article on the Key System Articulated Cars. I have been a railroad modeler for the past forty years, specializing in Santa Fe, and building to half-inch scale.

It was my good fortune to travel via Key System this summer while vacationing in San Francisco, and very fine to return and find drawings complete enough to reproduce this fine system in my favorite magazine. I also had the unique pleasure of riding on the Cable Car System, and wonder if possibly I may at some future date find that on the same pages.

Thanking you for your fine publication. . . . *H. R. Howard, Pomona, Calif.*

(Plans for a cable car appeared in the July, 1947, issue.—ED.)

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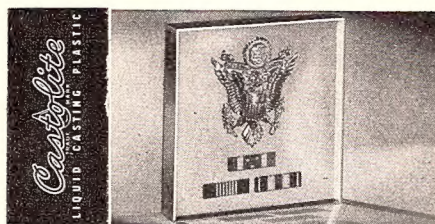
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YORK, PA. On Sept. 28th, the Miniature R. R. Club of York sponsored a trip from Mt. Union, Pa. over the East Broad Top, a narrow gauge line. The tour included inspection of the coal mines at Robertsedale and the shops at East Broadtop. Those enjoying the excursion were privileged to ride on the once private and luxurious coach owned by Pres. Grover Cleveland.

This was the second Excursion the Club has sponsored over the East Broad Top and plans are now under way for one of the largest tours ever to leave York. This tour planned for early 1948 will be made over the Western Maryland R. R. to Hagerstown and will include a trip through the various shops. More specific information will be announced as the plans progress.

WEST ENGLEWOOD, N. J. The HO West Shore Model R. R. Club has resumed weekly meetings with the departure of summer. Meetings are currently being rotated among the homes of the various members. On October 2, the members saw movies of the Lehigh Valley Transit Company taken between Easton and Philadelphia. The week before they saw a series of Kodaslips taken by Henry Zannie on a recent trip through the Smokies to Tenn., this series included many rail scenes.

CLEVELAND, OHIO The official name of the Cleveland Railfans Ass'n. has been changed to the *Cleveland Railroad Club*, meetings held the second Saturday of each month. At the present time the members are constructing bench work for an O Gauge layout to be Steam (2-rail) and overhead trolley, the boys are hard at work every Wed. and Fri. evening.

The Youngstown & Southern Ry. Co. expects to quit passenger service soon and the club will hold a field trip on the Sunday nearest to the date of abandonment. All interested persons are invited to contact R. W. Richardson, 477 E. Market St., Akron 4, Ohio.

The club is now making plans for the Spring Regional Meeting of the NMRA to be held in Cleveland.

PATTERSON, N. J. On Tuesday evening, November 4th, the Model Engineers Railroad Club of North Jersey (O gauge) plan to start building their new layout at 35 Fair Street, Paterson. After 5 years of business and social meetings held monthly in different member's homes, the club is ready to "Highball" with Tuesday of each week designated as Work Night. A business and social meeting will be held once a month. Those interested in Model Railroading in this vicinity should contact the Secretary, H. R. Dolson, 115 Second Ave., Hawthorne, N. J.

NEWARK, N. J. A new club in OO gauge has been located at the home of Sam Cicchini, 40 Darcy St., Newark, president of the club.

The club now operates on the presi-

dents layout, known as the Lehigh Valley R. R. The layout has about 8 scale miles of track made up of a double track Main Line, a mountain division and a large freight yard. 22 OO locomotives, more than 35 passenger cars and large variety of freight cars are in operation.

The club officers are: Sam Cicchini, Pres.; Ed Reilly, V-Pres.; and Charlie Greene, Sec. The members want it known that they operate for the pleasure they get out of Railroading alone, and are not tied down by fancy rules and regulations. Anyone wishing to see the club should contact the president at Mitchell 2-4920 before 6 P. M. on any weekday.

AUBURN, N. Y. Members of the Cayuga Valley Model RR Club (HO) of Auburn, N. Y. entertained several members of the Kodak City Model Rails at their layout in the basement of the home of the president, Earl E. Krum, 136 So. Marvine Ave. on October 17th.

Organized in the spring of '46, the Cayuga Valley gang has been busy spiking rails, building bridges, wiring switches, and at last, began constructing scenery during the summer months. Several test runs on their pike were made during August so that three divisions were in operation at the time the Rochester boys made their visit.

That model railroading appeals to men in all walks of life is shown in the roster of the Auburn club: a director of adult education, an electrical engineer, a dental surgeon, a hardware retailer, a naval inspector, a hospital superintendent and a county agricultural extension agent.

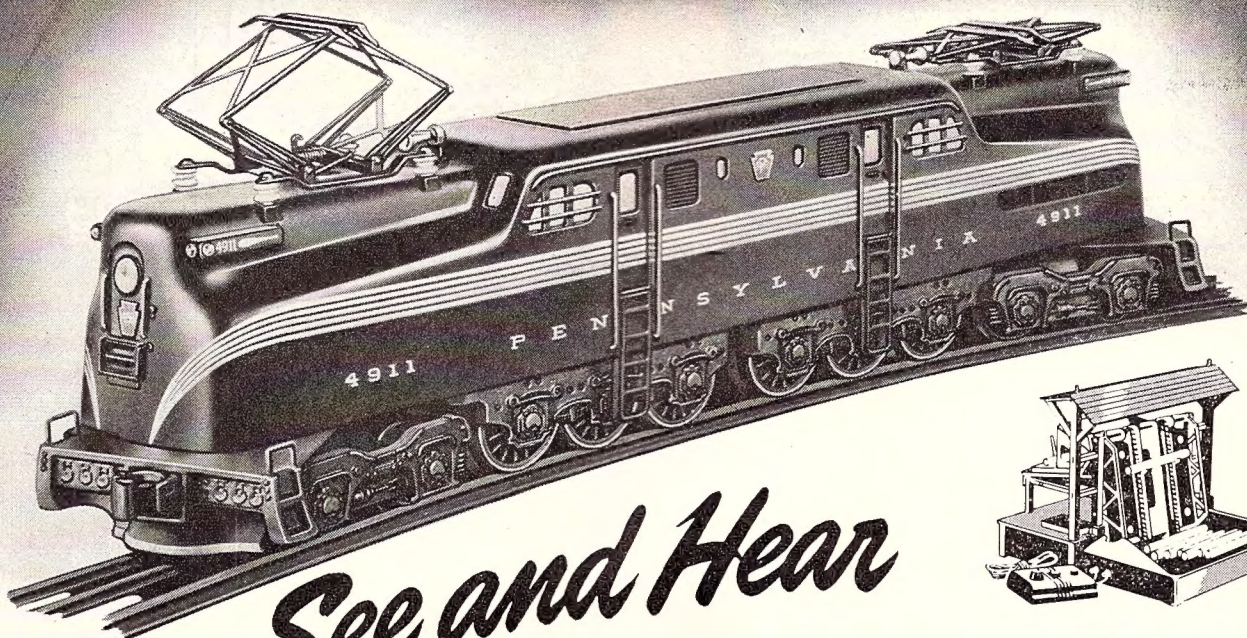
DAVENPORT, IOWA. The Quad City Model R. R. Club which organized last May has secured temporary quarters in the garage of one of its members at 2908 Western Ave., Davenport. Business meetings are held the first and third Thursday of each month. Construction meetings being held every other Thursday. To date, the table and bench work has been completed, and the work is about to start on the double track main line.

The club is in HO, but all men interested in Model Railroading in the vicinity are invited to visit the club any Thursday. They now have 12 active members and would like to have more. Anyone wishing to join can get complete information from Ray Gehbauer, Pres., 2908 Western Ave.

TOLEDO, OHIO. On October 3, the Toledo & Maumee Valley R. R. Club celebrated its first anniversary. During the preceding year the club experienced the many pitfalls other clubs have had to contend with. The location was changed, due to the enlarging of Hines Hobby House in which the club was originally located. This move was disheartening as the track laying was well along at the time, and all had to be removed by sections. It also held up construction operations.

Late this summer the club got the Hi-ball and track laying, wiring, etc., has

(Continued on page 41)



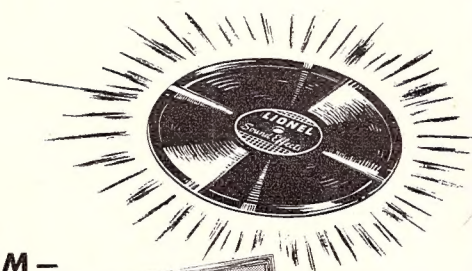
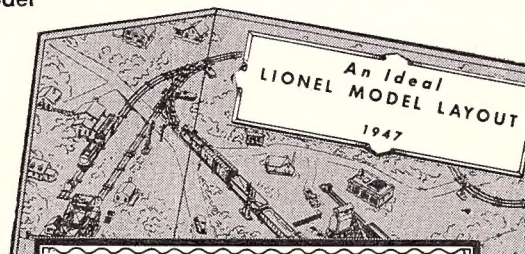
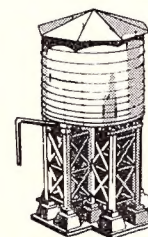
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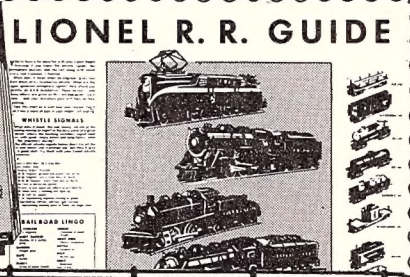
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THEM—

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THEM—

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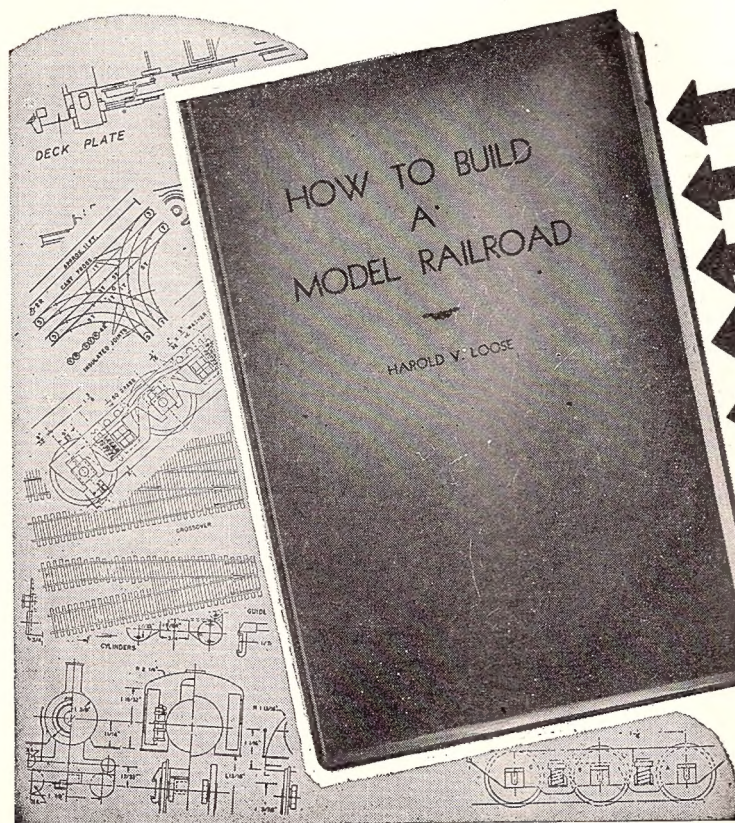
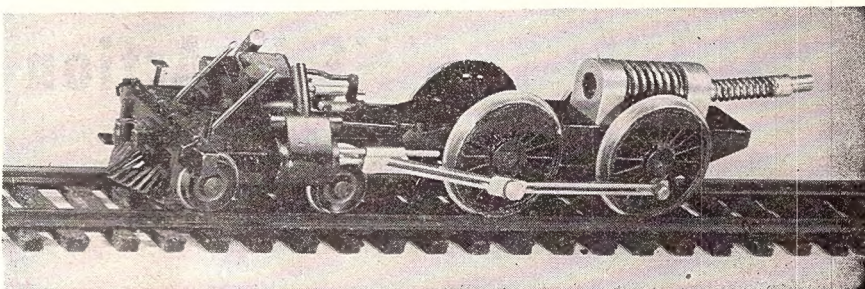
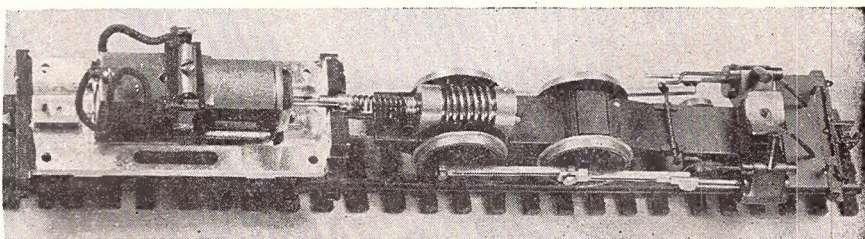
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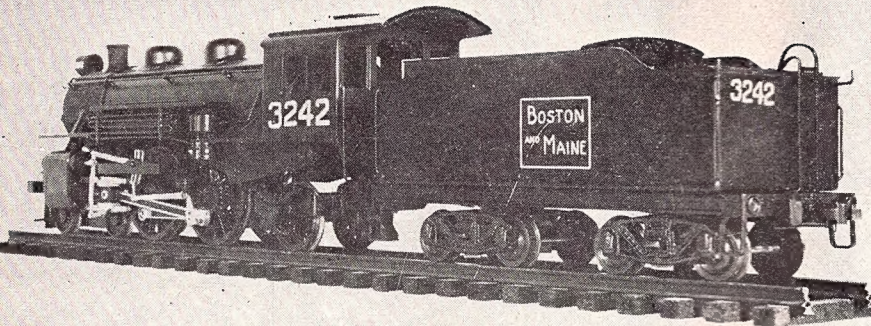
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MODEL CRAFTSMAN

RAMSEY, NEW JERSEY

The Model Craftsman



Boston & Maine Atlantic

PART IV

By LEWIS AUSTIN

THE tender for the Boston & Maine Atlantic is exactly the same as the tender described for the Boston & Maine Mogul with the exception that the back-up light is left off. There are a few differences, however, in the method of construction due to the fact that it is not necessary to mount the motor in the tender on this model.

The underframe would be the best place to start construction. As in the case of the Mogul, the underframe is built up entirely of brass. Make the end beams out of $\frac{1}{4}$ " square brass as shown by the top view of the underframe. The rear end beam has two notches about $\frac{1}{16}$ " by $\frac{1}{32}$ " filed in each end to facilitate soldering the rear steps to the underframe. The channeled sides of the underframe are simply lengths of "O" gauge brass rail as you can see by looking at the cross-section of the underframe. Note that the lengths of rail are mounted upside-down so that the thin base of the rail is at the top of the underframe. Strips of $\frac{1}{2}$ " wide by $\frac{1}{32}$ " thick sheet brass are soldered

along the lengths of rail on top of the underframe. These strips form a flange under the tender to enable you to fasten the tender body to the underframe. Drill the $\frac{3}{32}$ " holes through these strips as shown on the drawing. All these parts can now be soldered together. Be sure that the corners are square so that the underframe will not be out of alignment.

The rear steps are bent to shape out of $\frac{1}{16}$ " wide strips of $\frac{1}{32}$ " sheet brass. Place the steps in the notches filed in the end beam and solder them in place. The front steps are filed to shape out of brass. Cut the openings right through to the end beam for the angle pieces that are used to mount the steps. This will cover up the backs of the openings.

The bolsters are sawed and filed to shape out of $\frac{3}{8}$ " thick brass. The shape of the bolsters is shown clearly on the cross-section drawing of the underframe. Solder $\frac{1}{2}$ " wide strips of $\frac{1}{32}$ " thick sheet brass along the bottom of the bolsters to form a flange. Drill and tap a 2-56 hole in the center of each bolster for mounting

the trucks and then solder the bolsters in place on the underframe.

File the coupler pocket to shape out of $\frac{1}{8}$ " thick brass. The opening for the coupler shank is cut out by drilling holes and filing out the metal between them. A strip of $\frac{1}{32}$ " sheet brass is soldered on the end beam first, then bevel the ends of this strip as shown on the top view of the underframe. Now the coupler pocket can be soldered in place. Small brass rings about $\frac{3}{16}$ " in diameter are soldered to the ends of the end beam to represent the poling sockets. Mount the coupler on the underframe, drill and tap a 2-56 hole in the front end beam and the underframe is completed.

Fasten the trucks to the underframe with 2-56 screws. Washers are placed between the truck bolsters and the body

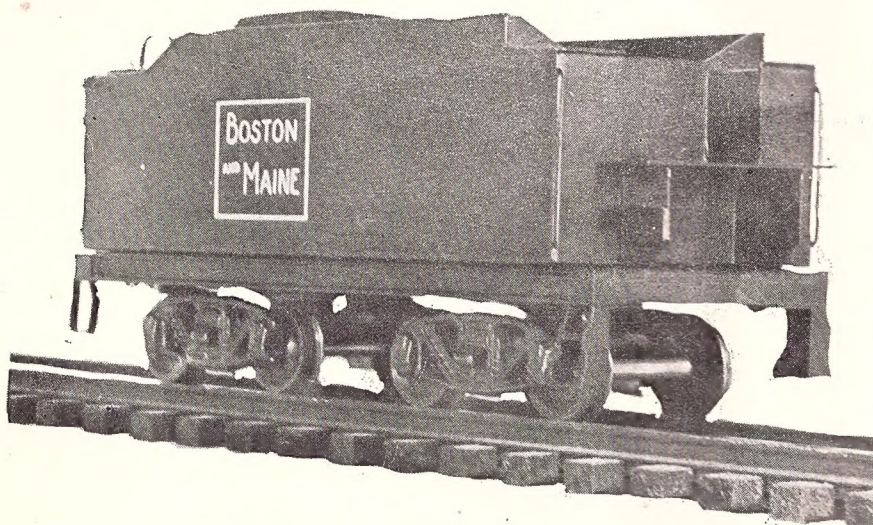
bolsters to bring the underframe to the correct height from the rails.

The tender body is built up entirely out of $\frac{1}{32}$ " thick sheet brass. All the templates are shown full size and they are numbered to show their correct locations on the drawing of the completed tender. If you have a piece of brass long enough it would be best to cut the sides and ends of the tender body out of one piece. If not, make it out of two pieces with the seam in the center of the back of the tender body. Bend the sides and ends to shape on the dotted lines shown on the template drawing. The long tap at the bottom is necessary to enable you to fasten the tender body to the underframe with 2-56 screws. Try not to get sharp bends in the corners but instead try to get the corners nicely rounded. The top of the tender tank can now be cut out. Do not work to the width of the template; for after making the bends in the sides and ends of the tender, the tender body may be slightly wider or narrower than it should be. Cut the top of the tender tank to fit inside the tender body. Solder it in place about $\frac{1}{16}$ " below the top edges of the tender sides.

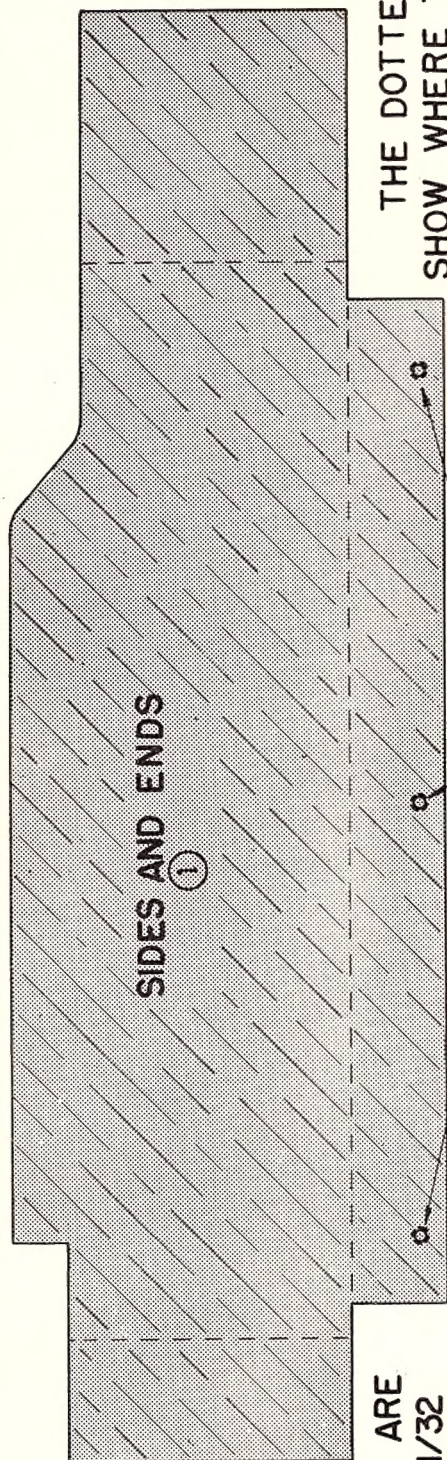
The piece that forms the coal compartment is cut out and bent to shape next. The shape of this piece is shown by the dotted lines on the side view of the completed tender. Be sure that you cut this piece exactly the same width as the piece that was used for the top of the tender tank so that the sides of the tender body will be straight and parallel when the coal compartment is soldered in place. When soldering the parts of the tender body together, try to do as much of the soldering as you can inside the tender body where it will not show. In this way there will not be so much excess solder to clean off.

The tender deck is cut out next. The piece is bent as shown by the dotted lines on the drawing of the front view of the tender. Note that this piece also forms the sides and tops of the two tanks at the front of the tender. When this piece

(Continued on page 42)

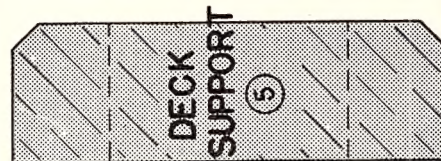
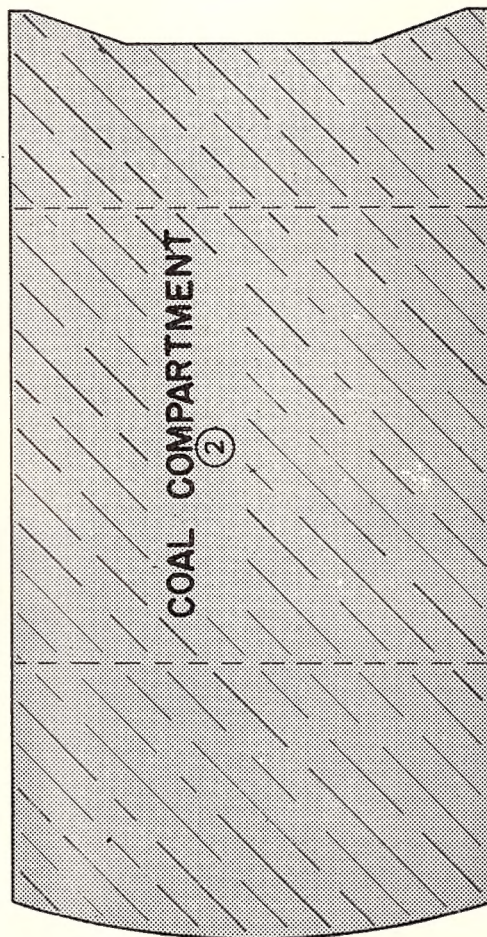
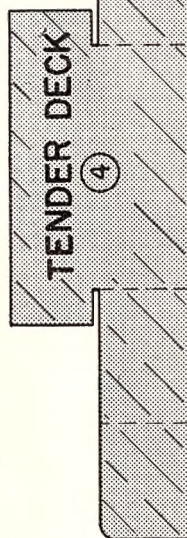


BOSTON AND MAINE ATLANTIC TENDER DETAILS



ALL PARTS ARE
CUT FROM 1/32
BRASS

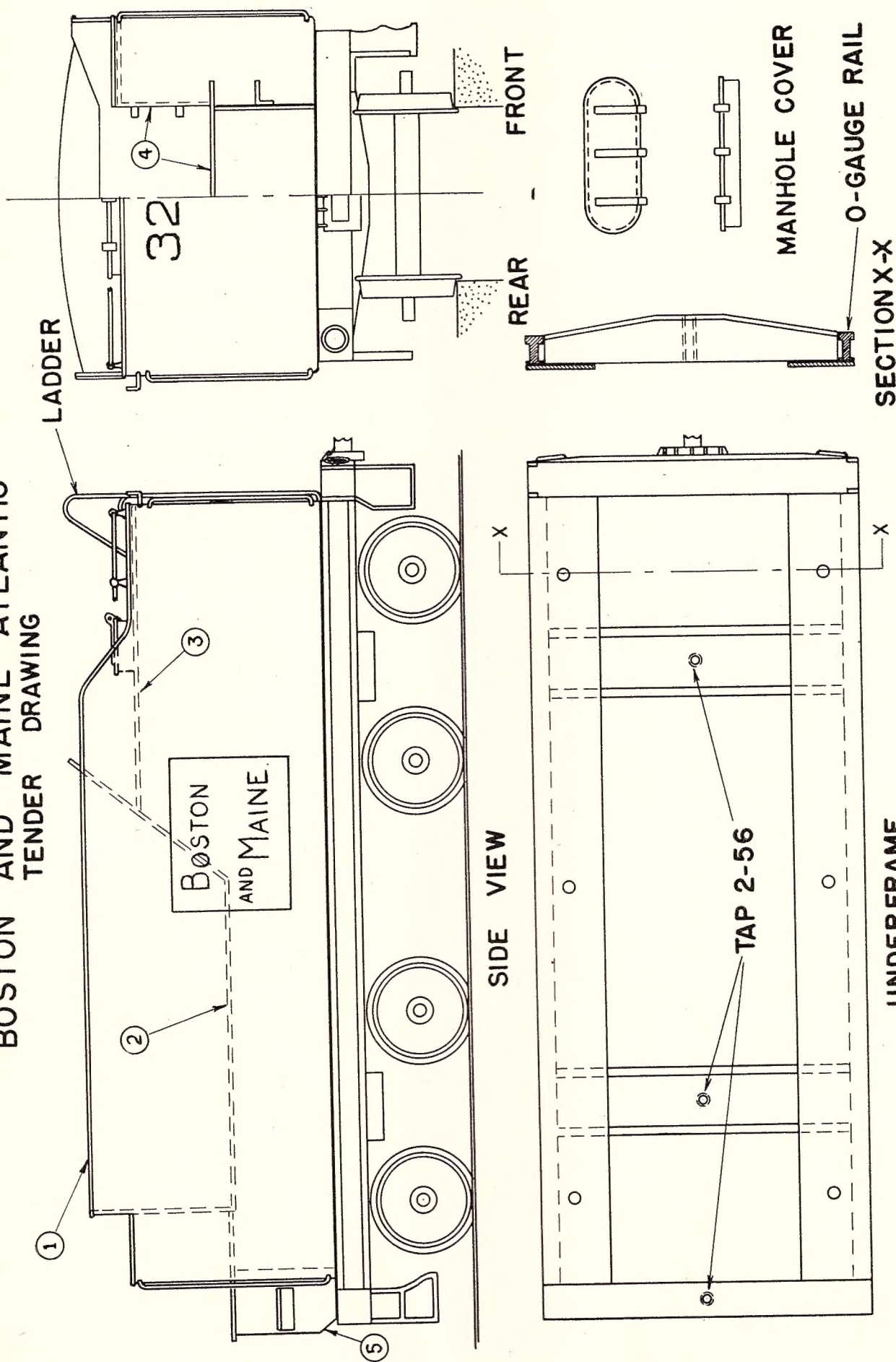
THE DOTTED LINES
SHOW WHERE THE PARTS
ARE TO BEND



ALL TEMPLATES ARE DRAWN
FULL SIZE FOR O-GAUGE

L. AUSTIN

BOSTON AND MAINE ATLANTIC TENDER DRAWING



L. AUSTIN

The New Jersey Terminal Railroad

By WARREN B. CRATER

THE idea of using this type of name for my layout is not original, but was derived from the Union Connecting Railroad of the N. Y. S. M. E. Although I was closely associated and did a lot of construction on the original Ucon, all planning was done by others and the idea of calling it a Terminal Road found favor.

Since I have locomotives of several prototype roads, the terminal road idea fits exactly. Naturally, I looked around the property of my employer, the Jersey Central. The New Jersey Terminal R. R. is a separately owned industrial branch at Carteret, N. J. and its name does not appear in public timetables. Being quite appropriate to my needs, this title stuck like flies to molasses.

Names for stations and physical characteristics were also taken from the Jersey Central and worked into the basic layout during development.

In presenting the planning and building of this layout, it is not anticipated that any reader should copy it. Rather, we will show how ideas may be, and were developed to suit a particular space. Basic trackage was of first consideration to meet the needs of operation.

Several ideals were listed to strive for:

1. Point to point operation, without need for turning long trains.
2. Junction to Terminal branch operation, turning short trains.
3. Short turn around passenger service on main line using suburban engine.
4. A long freight train with facilities to store out of sight.
5. Facilities for storing several complete trains out of sight for main line operations.
6. A portion of double track main line of scale length equal to what is usually in range of vision from a vantage point near and above a station layout. To include a junction to single track branch and the yard and engine terminal facilities incidental to such a set up.
7. A portion of single track main line length as above, to include a station, town, and appropriate trackage.
8. A grade crossing of two single track lines to use an old "Ball Signal".
9. Interlocking, automatic signals, road crossings at grade, overhead bridges and underpass are to be strategically located as development takes place.
10. All scenery to be developed around the basic track layout with additional spur tracks where necessary.
11. No visible track along any wall.
12. Level main line track 39½ inches above floor to be shown as elevation 0 ± 0 in all drawings.
13. Minimum curve radius, visible on

main tracks 7', other radii to suit locomotives.

14. Timetable and train order operation in accord with A.A.R. practice.

THE SPACE—Since a comprehensive plan is essential, the available space was measured and laid out on the drawing board. This included only the main cellar 30' 7" x 20' 7", which is rather small quarters for an "O" gauge layout but there were other possibilities.

The sun parlor and porch extended in front of the foundation and the kitchen to the rear. Both were supported on block piers with false walls between. Both had settled to the extent that required attention. The decision to do the job right, once and for all, was immediately made. These additions were measured and put on the drawing. Space under the kitchen was finished to cellar floor level. Space under porch and sun parlor was finished to just below track level, except a walk way two feet wide next to the main cellar wall. In surfacing the higher level, lengths of 2" x 4" were suspended by wood slats from the floor beams over head at the proper level to carry the track base board and the cement poured under and around them. When set, the slats were removed and base board put in place.

Every obstacle in the cellar was measured and located on the drawing. Fortunately the cellar steps do not run along the wall and the landing is 15" above track level. The corner location of the coal bin is an asset as it fills a corner which otherwise would be a problem. The laundry tubs had to be moved 10" further from the wall and 2' 6" to the left. This location permits a double track curve of 8' and 7' 8" radii and clearing water and waste pipes along the wall from the kitchen sink above. The only other obstruction was the sewer trap vent at front of cellar which presented no difficulty.

THE BASIC LAYOUT—For domestic reasons, it was necessary to keep away from the center of cellar. The furnace of course is essential and a work bench and wood working machines are nearly so.

In planning the basic trackage, I worked on the original drawing. The curves thru the coal bin and around to the laundry tubs, with the short connecting tangent under the stair landing, just evolved naturally. The remainder needed developing. First planned was storage for a long freight to be powered by a READING 2-10-2 needing curves of 7' radius. This developed into tracks marked "Freight Storage" behind the scenery at Somerville and continues into

#5 in storage yard in the new front of the cellar. It holds a complete forty car train which includes a 65' gon and a number of 50' cars.

Next came the High Bridge layout, into which must go a station building which my father built, modeling the P.R.R. station at Norristown, Pa. This is planned at street level which is 4½" or scale 18' above track level. Back drop and actual buildings, appropriate retaining walls and bridges are tentatively planned to work in with the scenery. Track level platform for Eastward track and express car track and an island platform between the Westward and branch main track were worked in. The branch main and a long passing track were extended to the abutment for a removable bridge, previously described in MODEL CRAFTSMAN. An interlocking is tentatively planned for the main track switches at East End and West End of High Bridge. The yard tracks were then planned so the base board extends out 4' from the wall.

The layout from Bells Crossing thru Somerville to Lebanon was planned as a unit, Somerville being of greatest importance. The crossover at Lebanon is really the East End of Double Track (EEDT) and switch to freight storage track. This will be covered by scenery and the branch line terminal with its scenery will cover the main line and the shop. Branch track will be at an elevation of 0 ± 5 ".

Somerville has the single main track, a combination station and freight house track, a passing track which is extended beyond its east switch to an industrial siding and a coal trestle with switch off the passing track. Scenery tentatively planned will include street and building fronts, some of which have been pictured with my locomotive articles in MODEL CRAFTSMAN. This will hide the branch and freight track from view.

Bells Crossing and the long curve to the bridge were fitted into the drawing. Mountain scenery behind the branch track is planned with a tunnel portal on the main track. This will hide the electric meter and permit access to it.

The development of scenery and otherwise dressing up the layout will be the subject of future articles in MODEL CRAFTSMAN.

I wish to say here that I have found loads of helpful information in previous issues of the magazine, some as far back as 1932, which was MC's first year. Very little have I used as is, but did change and recombine to suit my needs. I urge the readers using this article when planning their layouts, to discard what cannot be used and rearrange parts which are usable to fit their space.

The storage yard was designed to hold

three eastward and five westward trains. Trains are to be stored there on their respective tracks complete and ready for the road. Third rail is broken at the leaving end of each track to allow for stopping to clear the trailing switch.

Push buttons will be provided to bring trains out of storage tracks to the first section of main. Free point trailing switches are provided where only trailing movement is required. Spring switches will be used to separate trailing and fac-

ing movement and interlocking switches for facing point movement.

The control board at Somerville will handle main line between Lebanon and Dunellen and the branch line over Bell's Crossing. The board at High Bridge will handle the remainder of the main line, the yard and engine terminal and the branch to Bell's Crossing.

Interlocking at Lebanon and Dunellen will be controlled from Somerville East End and West End of High Bridge, and Hampton will be controlled from High Bridge.

CONSTRUCTION—Little need be said about the table work. Well seasoned wood is a must to prevent later trouble from warping. Proper bracing and framing are necessary to prevent sagging and moving. Where an end of track stands out, such as the abutments for the removable bridge, it should be braced diagonally to the solid parts or the wall. This can also be used as a scenery base. Also the uprights should be anchored to the floor using expansion bolts or wood screws with expansion shields. These are set in holes driven with a star drill. Obviously a wooden floor would simplify this installation.

Framing should be of sufficient width to support all track. Base boards should be under the track only. All buildings should be built on their individual bases and so constructed that the scenery, plaster, etc. can be set up to them without showing a crack.

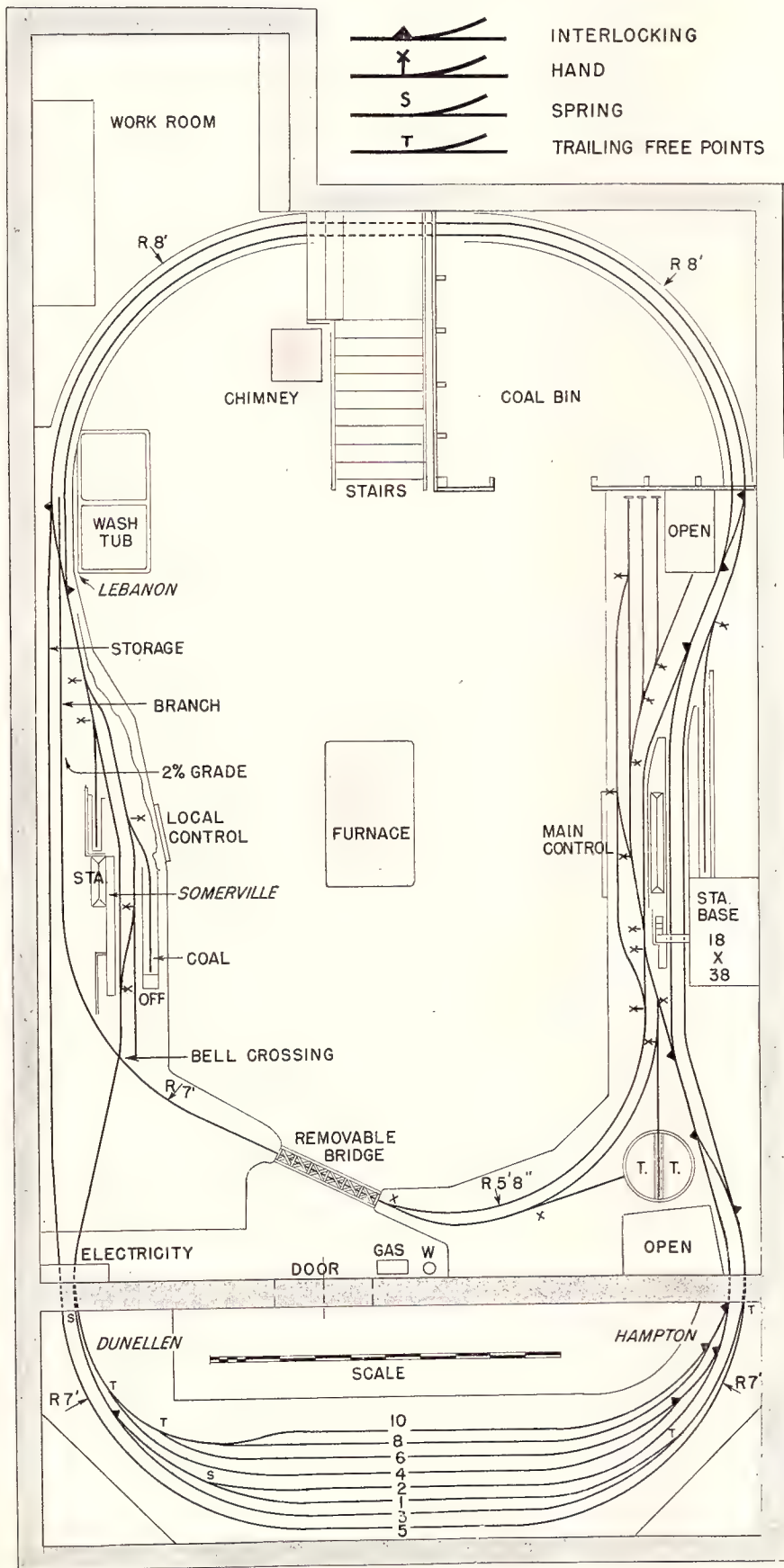
As the drawing indicates, I have a number of switches built into curves. There has been little difficulty in this connection. There are only two things to be remembered, minimum radius and the proper dimensions of gauge and clearances.

Where the track goes thru the coal bin it should be hung from the floor beams above and a plank should be placed above it at the window as protection from the coal chutes and shovels when coal is delivered.

Wherever possible, in the wider sections a building or even a section of scenery should be made removable to provide working space for repairs and any work that may be necessary.

Plan your signalling along with your track and iron out all kinks so far as possible before any scenery is put in the way. Plan the track sections for the control circuits and leave the necessary breaks during construction. I use a separate section for each track between switches. In this way an engine can stand just clear of the fouling point and another train may move without bridging a gap and feeding the engine standing to clear and causing a collision through its unexpected movement. A toggle switch or push button is provided for each track section according to its intended use.

There is no place in this layout for a truly automatic signal so I am avoiding the track circuit and the resulting headaches. I have a semi-interlocking in operation at West End High Bridge which will be simulated at East, End, Hampton, Dunellen, and Lebanon. All of these when finished will comprise a future article.



Detailed Caboose

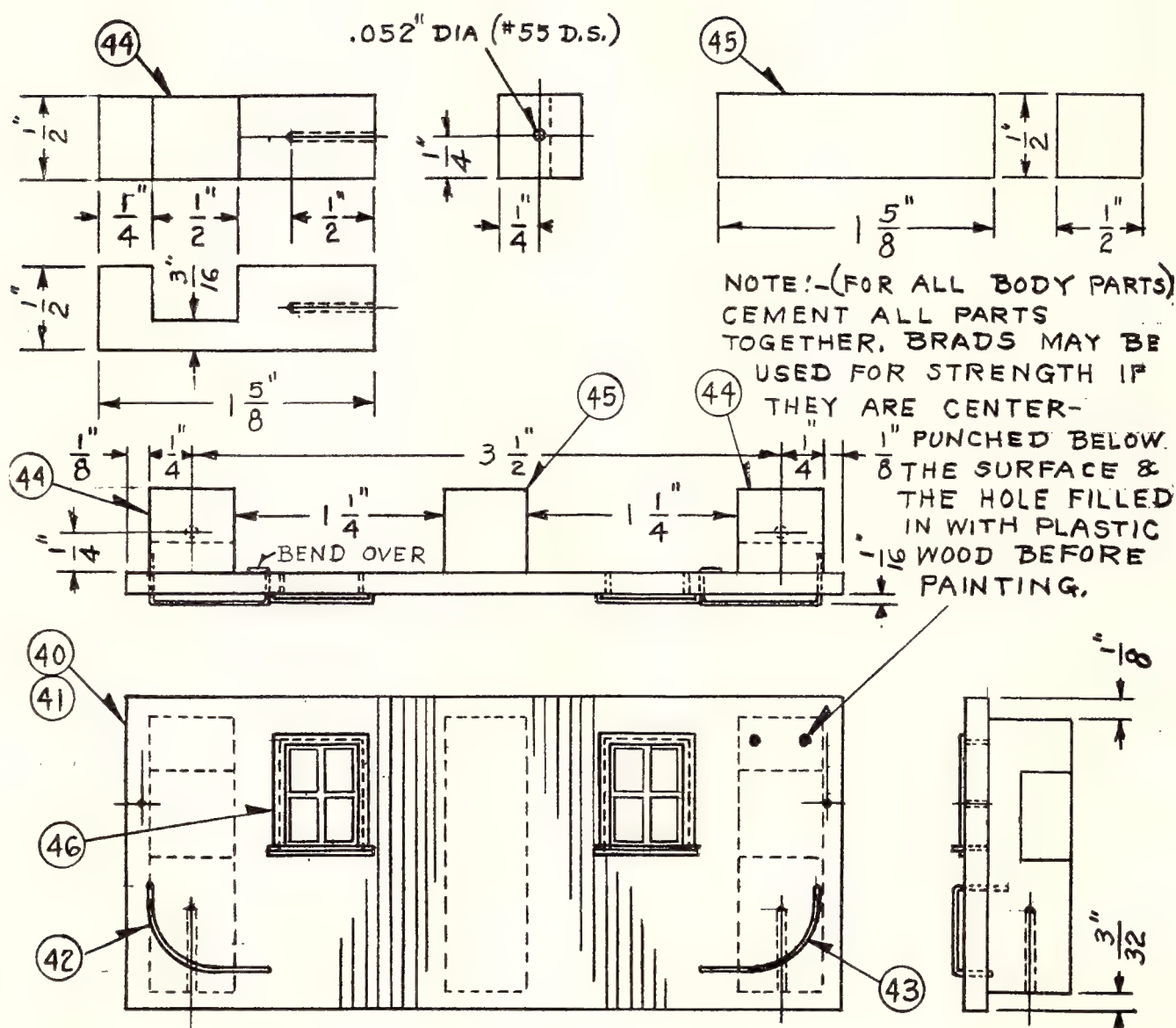
PART II

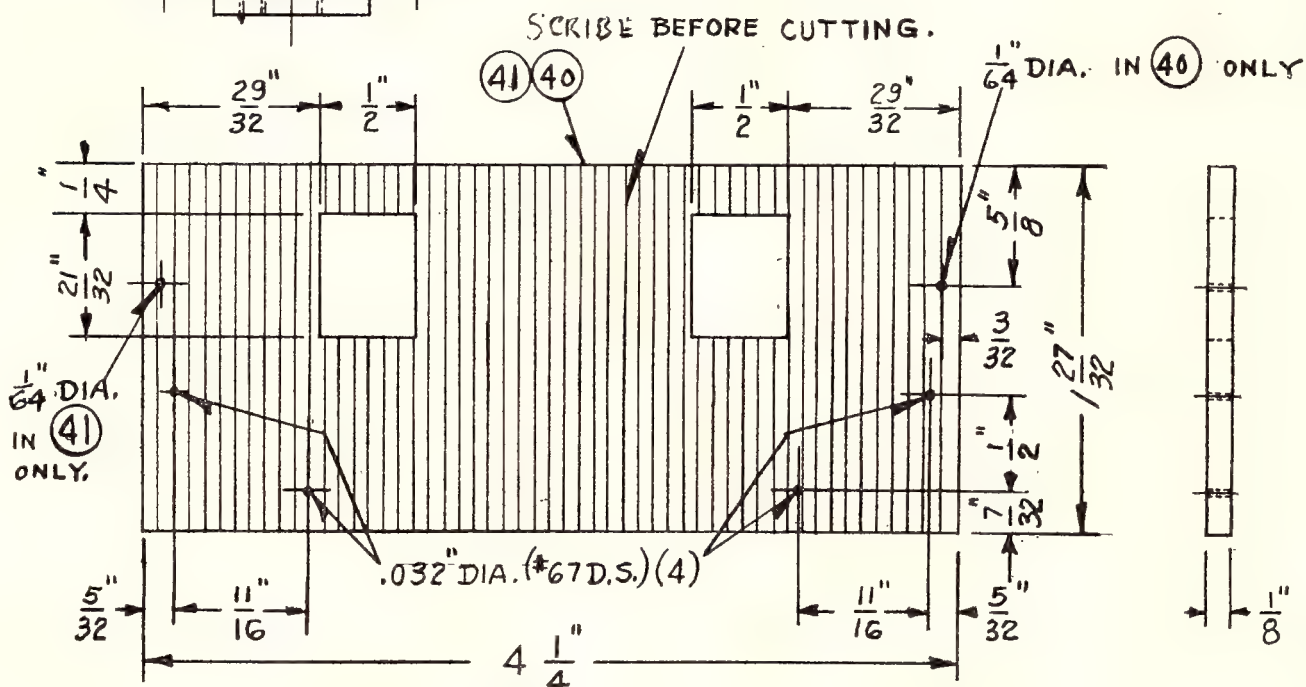
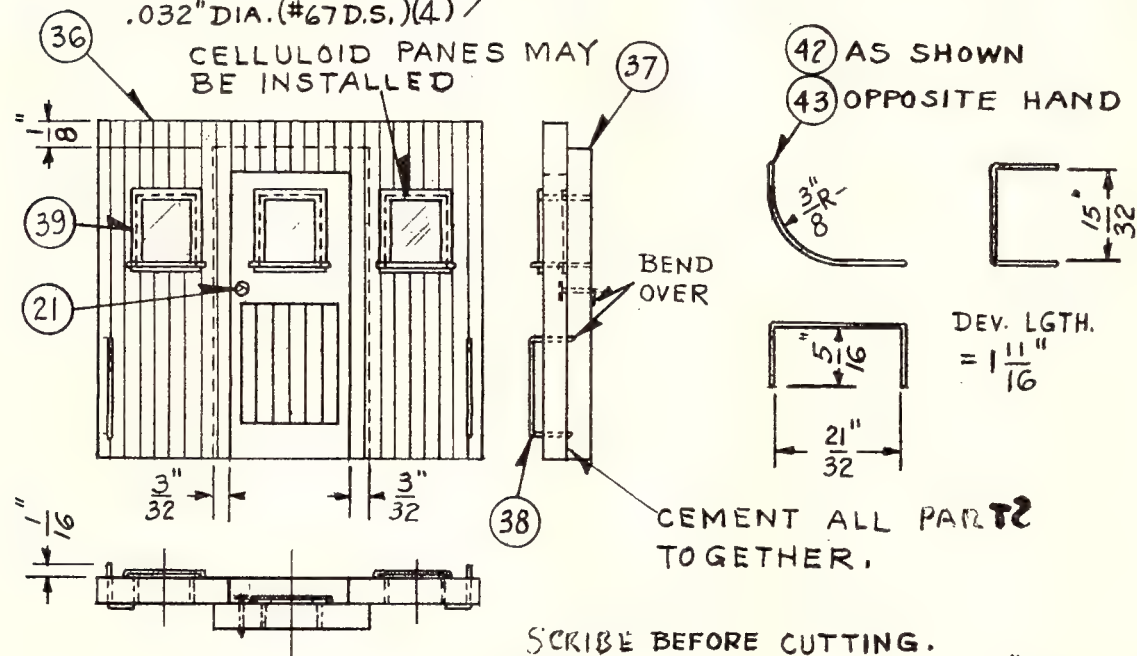
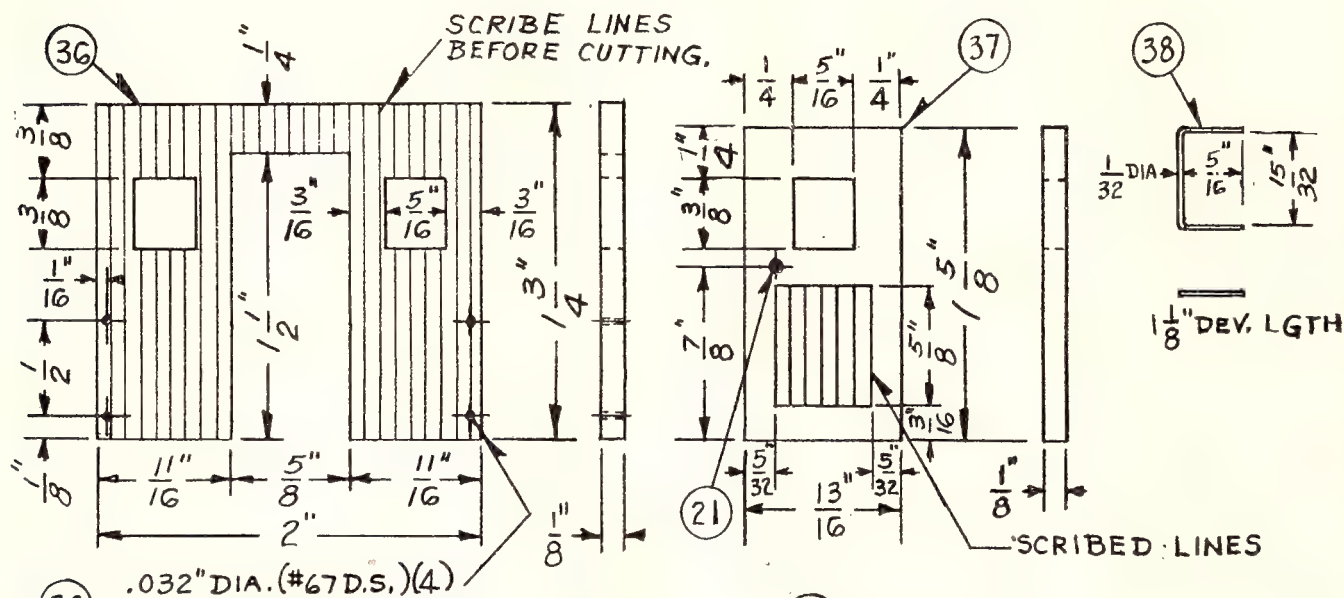
By JAMES STOUGH

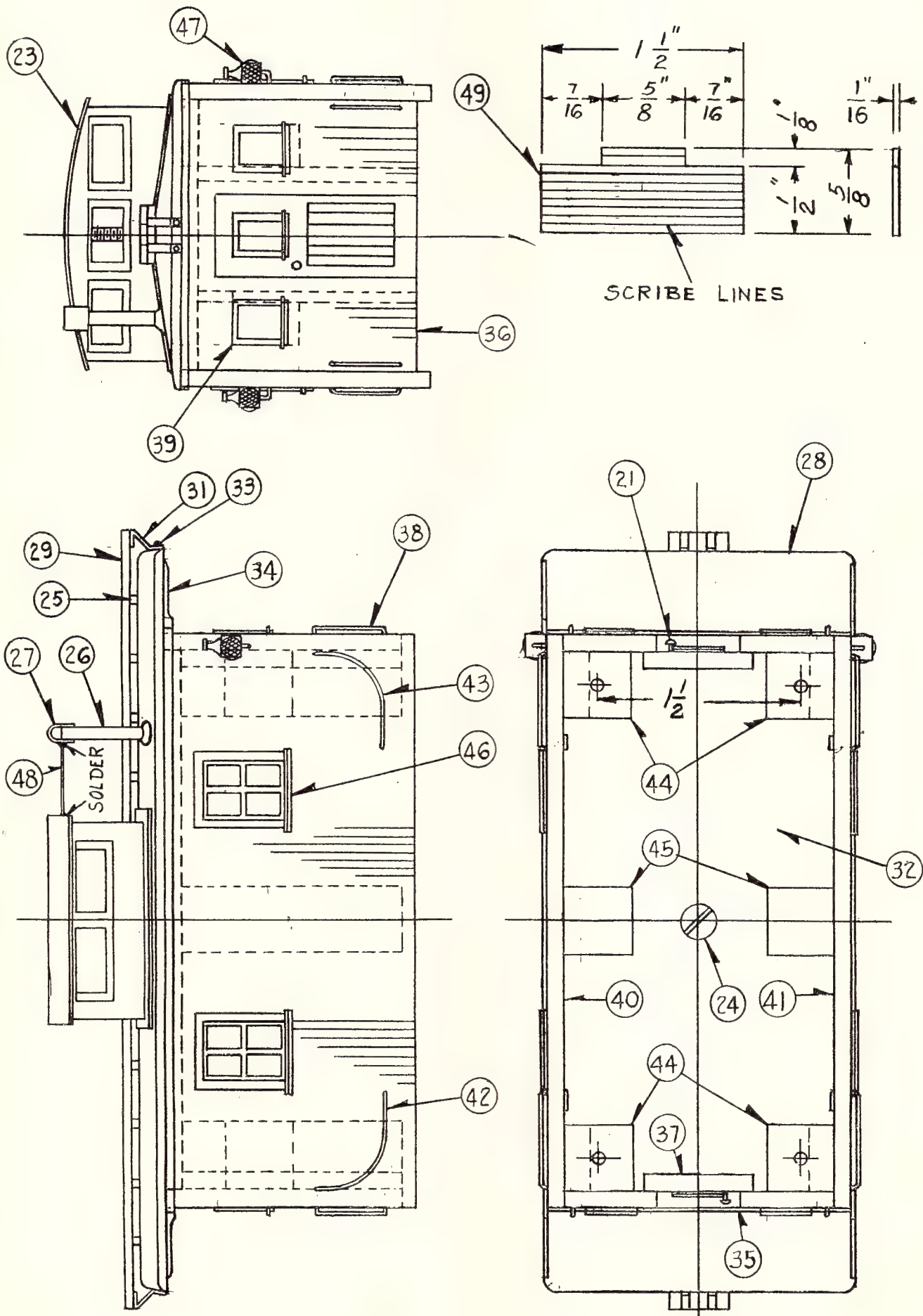
This is the final set of self descriptive plans on the construction of an old type model caboose. Additional plans appeared in the October issue together with complete list of materials.

COLOR CHART

Caboose Body	Standard Red	Inside Caboose body	Green
Roof, Underframe	Black	Trucks, End Ladders	Black
Grab Irons	Aluminum	Lettering	White







A Model Traction Layout

STEP BY STEP

By WILLIAM SCHOPP

"YOU, too, can build this full operating model trolley layout. Relax in your Morris chair while you perform all the fascinating operations of a full scale interurban line merely by pressing buttons and flicking levers." An advertising blurb for this model traction layout might read somewhat as above, jumping you painlessly over all the hard work right to the distant goal of full operation with cars whirring around tirelessly and in foolproof fashion. I propose to take you over the construction of a model traction layout of considerable complexity step by step.

The first step is always choosing the site. I have chosen rather a problem site, a small front or back room of a row house with one window and an entrance and closet door each swinging inward. The two inward swinging doors for which space must be left rob us of much good layout space, but they permit a somewhat wider platform since the trackage can be reached from either side. The window allows a wide valley with a long bridge over it, and a river valley and track under, a scenic set-up any model rail should grab. I won't take you through all the false starts and experiments I made in creating this plan, but I will remark that the river valley crossing of tracks was the first thing put down. This indicates that the old inside out figure eight track design would be appropriate with the real problem constituting the exact scenic placement of the trackage of the "eight" as well as the terminal and auxiliary tracks.

Once the layout is planned, the next step is to erect the platform. Because of the high price of lumber and wallboard, use as much second hand material as possible. None of it need show in the finished layout. I recently obtained a good supply of crate wood from a nearby monument works, which together with a few long lengths which have now seen their fourth layout, I will be able to make a platform. On a model trolley layout having much city street construction, it is a good idea to make the streets full width including sidewalks, and from strips of whatever wallboard is available. If the streets will take spikes, lay the track right on the wallboard, first making necessary pencil lines to indicate its position. If it is too hard or too soft for spikes, then the track must be soldered up on widely spaced tin or brass ties, which are in turn tacked to the street. Country right of way can also be laid on strips of wallboard. You can use glue soaked newspaper strips or whatever formula you favor to create the hills and valleys that really make the country.

The step by step laying of track for this layout is indicated by the types of lines used in the drawing. The solid line indicates the main track, the old "inside

out figure eight." This should be laid first and its overhang hung. Aside from the three passing tracks, there are as yet no annoying complexities of track or wire. It can be all one electrical "section," but at each passing track, provision should be made for stopping cars. This can be accomplished by having either the track (both rails) or the wire electrically separate from the rest of the system, fed only through a single pole, single throw (SPST) switch on the control board. Since there are three sidings, there need be six such switches. Of course, the continuity of the circuit for the rest of the track must be maintained by running jumpers around the stopping sections.

In manually operating three cars over the three-sided layout, you should leave all stopping section switches normally off. Then let stopped cars out on the single track only as your dispatcher's mind permits. What at first may seem complex, requiring too many hands, will soon fall into a sort of rhythm that will make you want to add new complexities such as two cars traveling in one block, the first one carrying green flags.

My preference has always been to break the wire rather than the track at sidings and other stopping places. For one thing, it is much easier to change the length and position of the stopping places than merely by rehanging a short length of wire, and you will want to change them from time to time. Some inexperienced modelers may prefer to maintain the continuity of the wire, but it is preferable not to, since when a wire is considerably broken up by section insulators, wire contactors and frogs, the replacing of a bit of wirework is not a major job. Then, too, all of my lines have had automatic control of one sort or another so that the holding of cars at passing tracks, letting them go, etc., was all done by relays. I have already described several systems in these pages, and I prefer all of them to work by sectionalizing the overhead because it can be altered without a major track job.

If you are thinking of automatic control, it is a good time to install it while the layout is quite simple. For this one, you will have three blocks, one for each single track section. Adding additional trackage later will not affect the basic automatic control system, but can be taken care of by properly placed insulators, wire contactors, etc.

Now we have a good main line in operation, the next step is to build the wye at Fourth and Main and run a spur down Fourth St. to the Traction Terminal. The crossing at Fourth and Broadway can be made by bringing the Fourth Street rails right up to the Broadway ones, soldering them there, filing flange-ways through Broadway rails and inserting short lengths of rail to fill the gap.

This and other additions of switches and crossings can be done without taking down the overhead work.

This terminal spur is indicated by a single dash and X line. As it stands, either double ended cars must be used or single enders turned at the street wye just installed. Good traction practice was to install a reversing loop when possible, so install the one indicated back of the terminal by the double dash and X lines. Off this loop run three tracks to the car barn. The first one is reached by a controlled facing point switch, but the other two can be reached only by backing in over spring switches. The crossing where the center barn track crosses the sharp curve of the loop is made exactly like the one at Fourth and Broadway. Since the loop is the "mainest" track, it together with necessary guard rails is laid first and the barn track superimposed on it. The final scenic treatment calls for the loop to be filled with a grassplot.

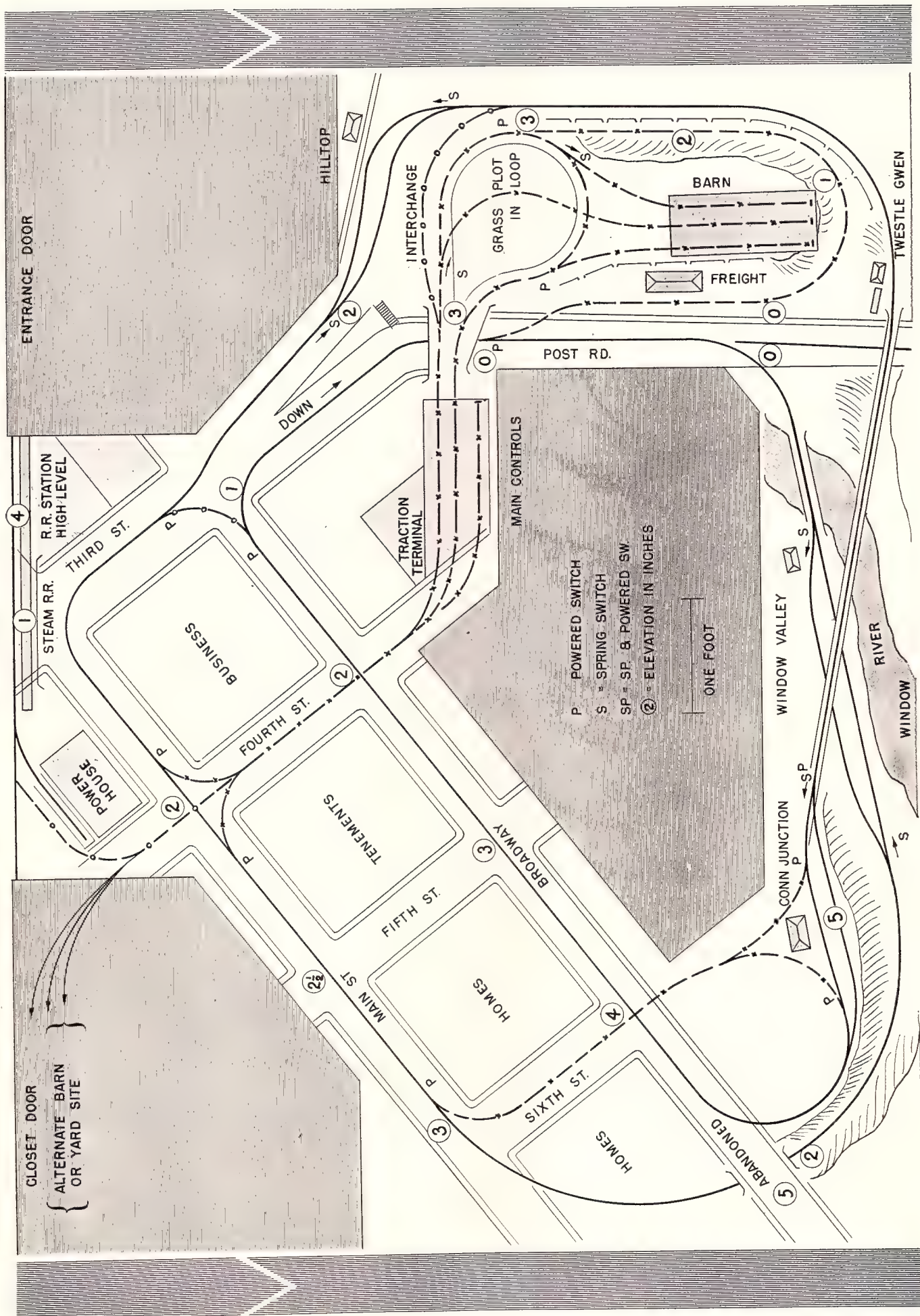
The next trackage to be added is indicated by triple dash and X. It consists of a spur running down hill from the reversing loop back of the barn to the lower level where there is a freight station. The other end of this spur switches into the Post Road line. Thus we have a freight house serving two "lines." Cars can be set out from one line and picked up by the other, thus making interchange. We may also add a wye at Conn Junction leading across Sixth Street to Main. With this wye in place, cars from the Broadway track have access to the Traction Terminal, over a round about route to be sure. Should the timetable not permit this long detour, a city line "running in from the Junction" can be established from Conn Jct. via Sixth, Main, Fourth to the Terminal.

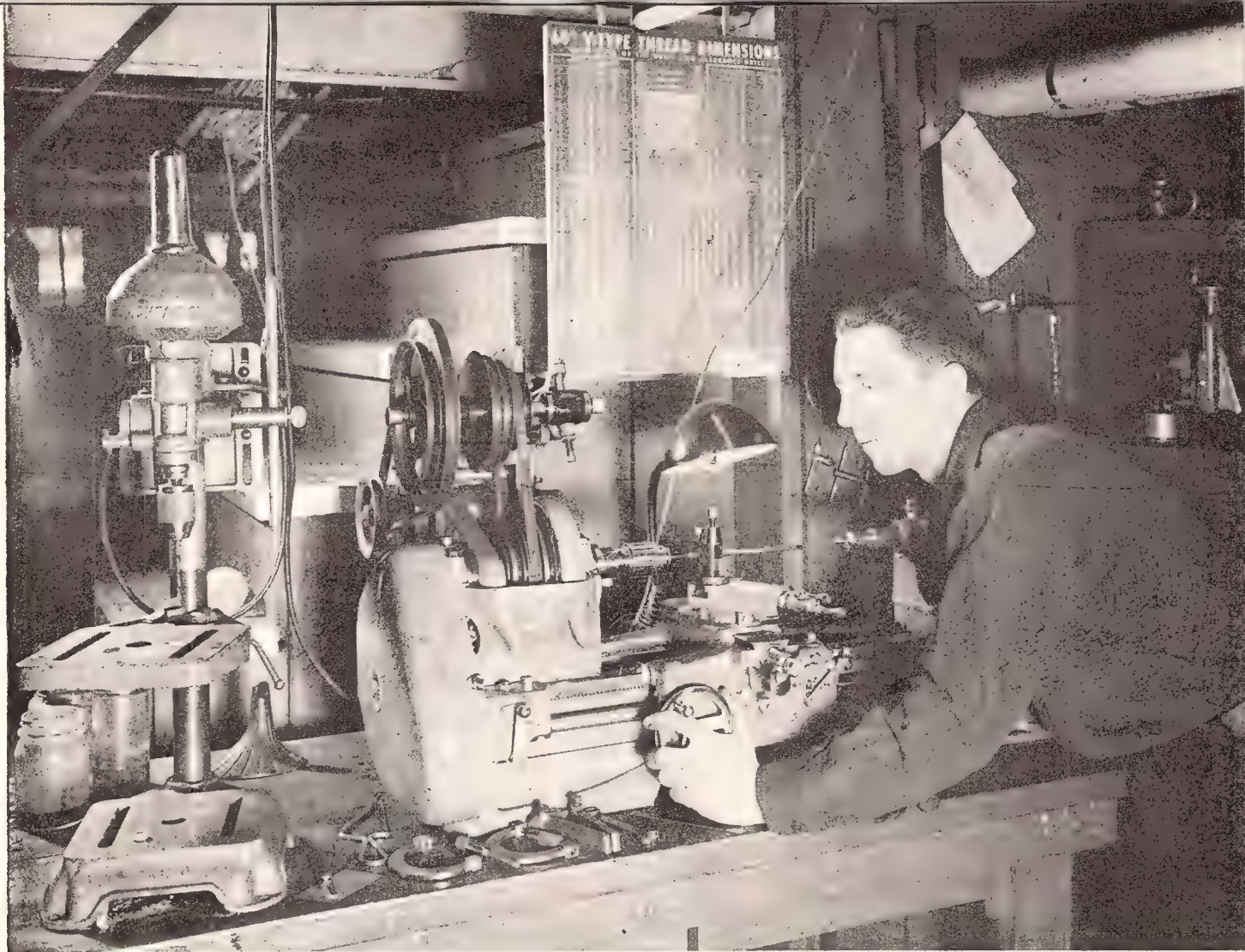
The addition of the single dash and O line at Third and Broadway, however, will permit the operation of an "eight" shaped city line, using the inevitable four-wheelers: Main, Third, Broadway, Conn Jct., Sixth and so on. Keeping these city cars out of the way of the interurbans will call for some sharp dispatching or automatic routing by means of contactors on the bottom of the car as previously described in this magazine. Another single dash and O addition is another interchange track from the terminal loop to the main line at Hilltop.

Double dash and O trackage continues down Fourth St., from the wye to what might be a power house siding, an industrial siding, an extra barn, or, if there is no closet in the corner, a regular freight yard or large storage yard.

Attention is called to the bit of steam railroad track which appears at the high level station at Third and Main Sts. Another scenic device is that Main St. and Broadway do not run on the edge of the platform but a few inches in from the edge. This will permit the placement of buildings or the fronts thereof on the

(Continued on page 42)





MODELMAKER POWER TOOLS

WITH a more intimate knowledge of the various working parts of the lathe, through mounting, accurate leveling, and a thorough oiling, as outlined in our last issue, it is now all set to run. Before starting under power, however, make sure the lathe will run free by turning the spindle over several revolutions, pulling on the cone pulley belt by hand. This precaution should be taken each time the lathe is started to be certain the work, the chuck, the driving dog or any revolving part will clear the ways, the compound rest and other points on the lathe.

Much of the success in running the metal cutting lathe will depend on the selection of the proper cutting speed. Studying the action of the tool bit on the work will enable one, with a little experience, to select a suitable speed for the various metals being turned. The most efficient cutting speed varies considerably, not only with the kind of material being machined but with the depth of cut, the rate of feed and the type of tool bit used. Too slow a cutting speed will waste time and leave a rough finish.

THIS IS THE SECOND OF A SERIES ON THE OPERATION OF A SMALL MODELMAKERS LATHE.

If too high a cutting speed is used the tool bit will burn or dull quickly.

The spindle speeds shown in the chart will aid in arriving at the proper cutting speed for work of various diameters, while using high speed steel tool bits. If a lubricant is used the speeds can be increased considerably and if tungsten carbide tipped tools are used the cutting speed can be stepped up 100% to 800%.

The harder the metal the less the depth of cut should be. More metal per minute can generally be removed by using the recommended speed with a roughing cut of between .100 and .125 inch in depth. The work is best rough turned to approximately .015 inch in diameter then finished with a sharp tool bit using several light cuts. Ordinarily work can be filed smooth, at low lathe speed, and polished bright with fine emery cloth.

Before actual turning operations can be accomplished on the lathe, cutting tools must be selected and ground to shape with keen, well supported cutting edges, sharpened for the particular kind of metal being machined, and set at the correct height.

Figs. 1, 2 and 3 show lathe tool bit design with angles ground on the top and sides together with their official A. S. M. E. designations. The cutting angle of the tool bit should be kept as large as possible for maximum strength at the cutting edge and to carry away heat. However, the larger the cutting angle the greater will be the power needed to force it into the work so between the two opposing factors a compromise will be necessary in arriving at the best rake angles.

The clearance angle on the front and side allow the part of the tool bit directly under the cutting edge to clear the work while taking a chip. Here again a compromise must be made in arriving at the best angle for too much clearance will weaken the cutting edge. The clearance angle must be kept as small as possible

to sustain the heavy downward pressure and still allow the tool to cut properly.

The tool holder, with replaceable tool bit, shown in fig. II, is universally used on metal cutting lathes. This illustration shows several tool bits, one ground to shape, one unground and one inserted in the tool holder ground on both ends. Grinding tool bits on each end is good practice and will save buying a large number at the start. The tool bit is set in the holder at an angle of 16½ degrees to provide front rake angle and to throw much of the cutting pressure directly toward the tool post. To support the tool bit firmly its cutting edge should be mounted as close to the tool holder as the work will allow. Fig. 4 shows the tool bit mounted in the correct position, indicated at "A" and also how the end of the tool holder is set as near the tool post as possible, indicated at "B". This will avoid spring and chatter in the tool, allow heavier cuts to be taken and more accurate work to be accomplished.

In grinding clearance angles on the tool bits the angle of the tool in the holder must be considered. This can be more readily understood by referring to figs. 5 and 6. The side clearance will allow the cutting edge to advance freely without the heel of the tool rubbing against the work. The same applies to front and back rake which also facilitate free cutting.

Fig. 7 shows how the tool is set slightly above center for turning cast iron, steel, etc., while in fig. 8 the tool is set at exactly lathe center height for turning brass or copper. The angle of keenness, shown in figs. 9 and 10, may vary from 60 degrees for soft steel to nearly 90 degrees for cast iron, hard steel, bronze, etc.

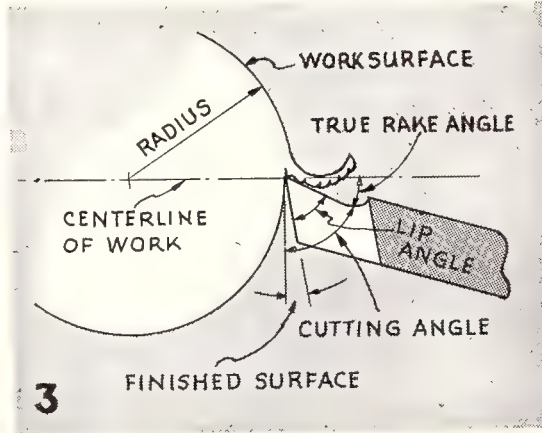
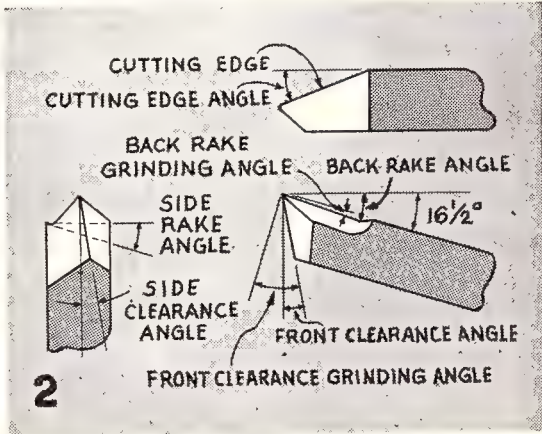
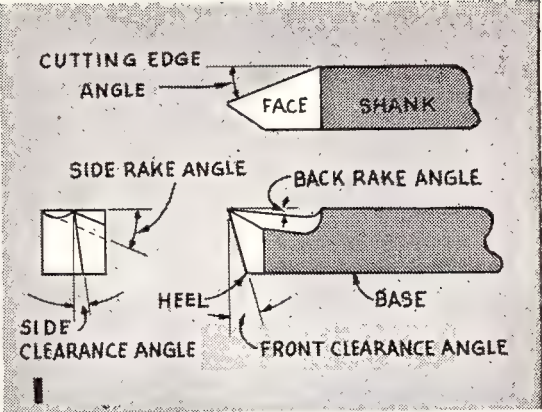
For one's first lathe it is well to purchase a set of six ready ground tool bits. This will give a better understanding of how they are to be formed for the various materials and cutting operations.

The drawing, showing six separate steps in grinding a tool bit for general machine work, is offered as a help in grinding your own. At "A" the tool bit is ground on the left side while at "B" it is being ground on the other. At "C" the end is rounded and at "D" the front clearance angle is being ground. "E" shows the grinding of back and side rake and at "F" the finished tool bit is being honed with a fine oil stone. Honing the edge, after grinding, is good practice as it will improve the quality of the finished work and lengthen the life of the tool.

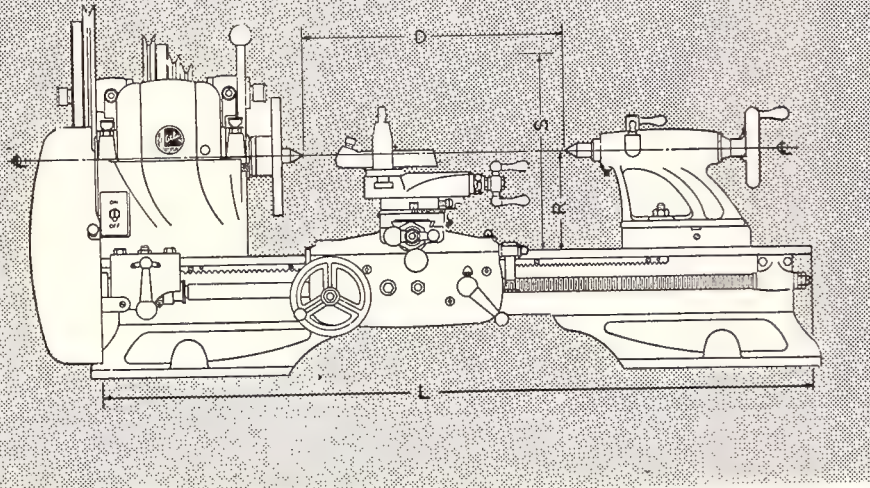
Part of the same drawing on the opposite page shows a number of tool bits ground for various types of work. The first one on the left is a roughing tool for taking heavy roughing cuts. If but one tool bit of this type is to be ground it had best be made up as a right hand tool for turning towards the headstock, as shown in fig. 12.

The second tool bit in the row is a round nose tool bit ground flat on top so it can be fed in either direction. This is a convenient tool bit and one which will be used a lot in bringing many types of work to completion. The shape of the tool bit is shown in fig. 14 as well as several of its applications.

The third tool bit illustrated is a left hand turning tool. This should also be set ground as a right hand turning tool for cutting from right to left. It is the most common type of tool bit for general all around machine work. Fig. 15 shows the left hand turning tool in use and several detailed views. The right hand tool bit

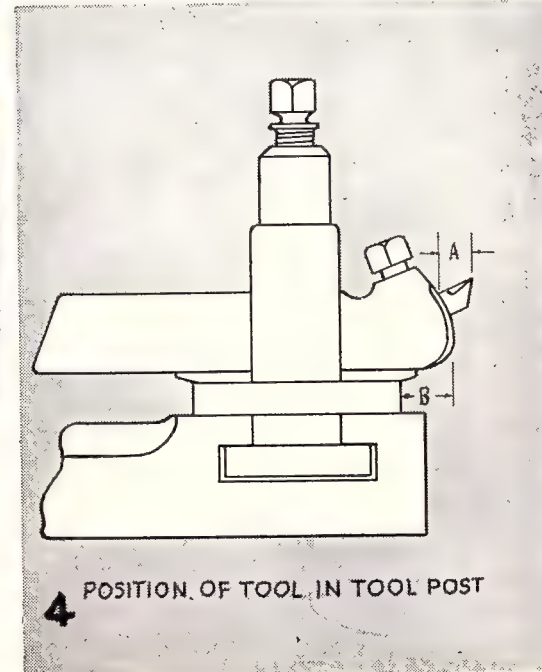


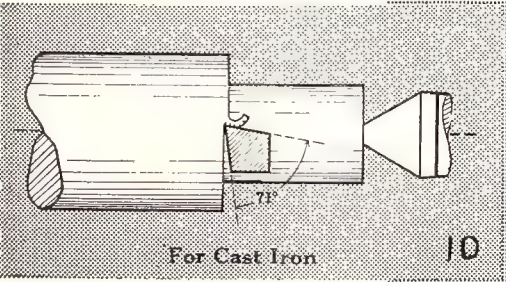
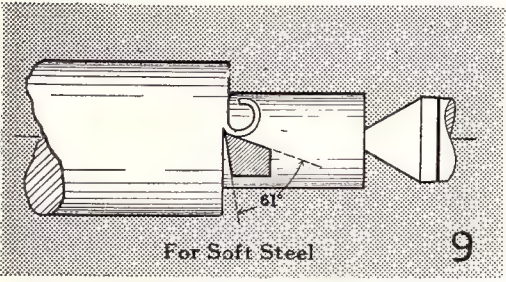
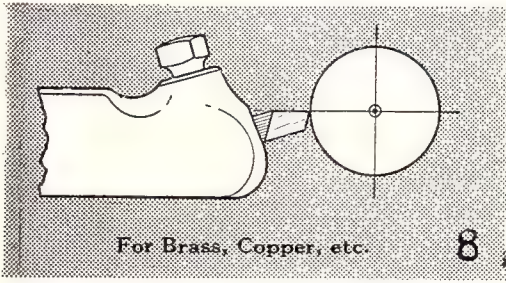
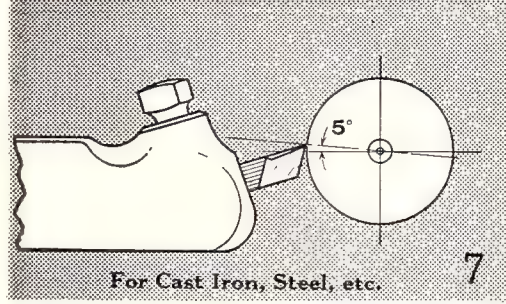
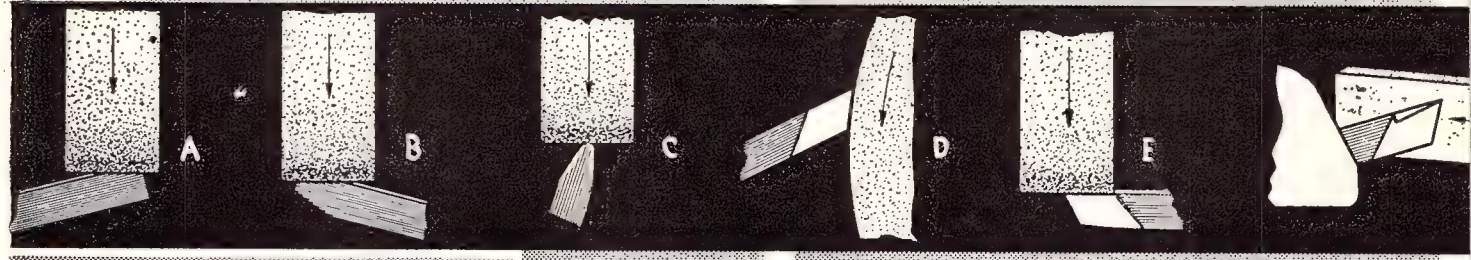
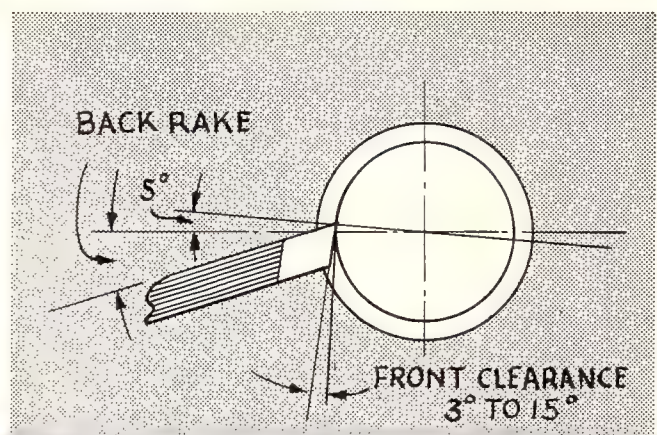
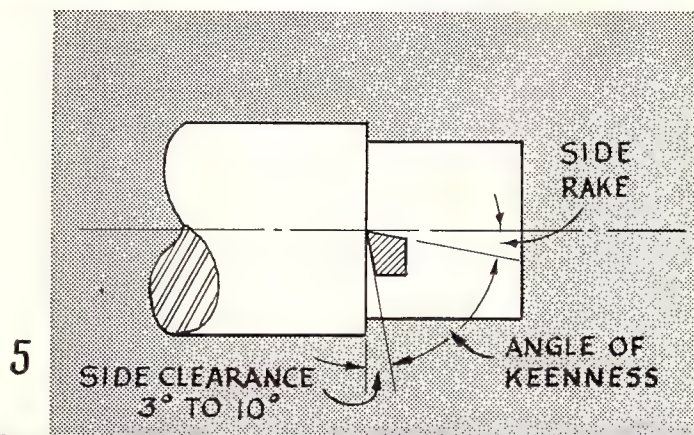
THE BACK GEARED, SCREW-CUTTING LATHE DEFINITION OF TERMS



The above drawing of a modern back-geared, screw cutting, precision lathe will help you to understand the terms used in this article and the following installments.

- D . . . Distance Between Centers
- S . . . Swing Over Bed
- R . . . Radius (½ Swing)
- L . . . Length of Bed
- C/L . . . Imaginary Center Line





is ground just the opposite of the left hand tool. The correct angle for front and side clearance can be had by referring to figs. 5 and 6.

The fourth tool in line is a right hand side or facing tool used for facing the ends of shafts and machining the work on the right side of a shoulder. The left hand side tool, just the reverse of the right hand tool, is illustrated in detail and in use in fig. 16. This tool should be fed outward from the center, as illustrated by the arrow. The point of the tool is sharp and is ground to an angle of 58 degrees to prevent interference with the tailstock center. The correct side and end clearance angles are shown in figs. 5 and 6.

The fifth tool bit in the drawing is a finishing tool, shown in detail and in use in fig. 13. This tool bit, if honed on its cutting edge, will produce a very smooth finish when automatic power carriage feed is used.

The tool bit next in line in the drawing is for turning brass while the last one on the right is a specially ground form cutting tool bit. Form tools can be ground for turning many shapes and their use will be described in later issues.

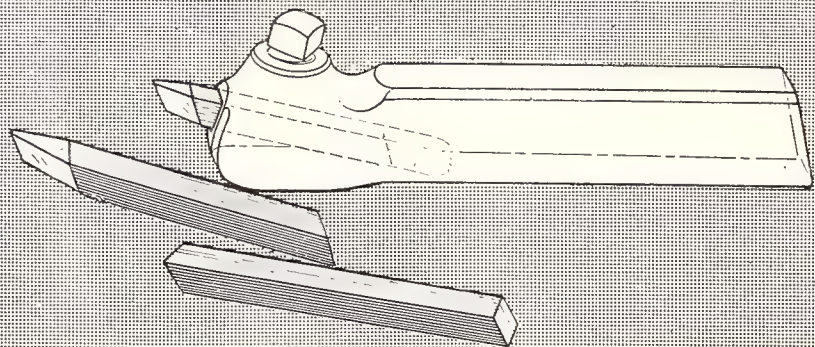
With a good 1/8 or 1/2 hp, 3450 r.p.m. motor grinder you will soon become proficient in grinding the various tool bits you need as the different lathe jobs are tackled. The grinder should have a coarse

wheel on the right side, for rough grinding, and a fine wheel on the left for smooth finishing. Each wheel should be fully protected by an eye shield. The tool bit should not be allowed to become too hot as its cutting edge will be burned or damaged. Keep a cup of water handy and cool the tool bit frequently. A good method to follow is to grind the point only as long as it remains wet. When the heat from friction boils the water on its surface away and the point becomes dry, cool the point again by dipping it in water.

The properly ground tool bit will have continuous wheel marks on each face running all the way across. Using the fine grain finishing wheel and the final honing of the tool bits with an oil stone are operations which are well worth while. The increased quality of the finished work and the longer life of the tool bit will well repay the time used.

A number of the tool bits shown in the drawings should be ground in pairs, one as a left hand tool and the other as a right hand tool. This will be necessary at times when work must be turned in both directions. In turning work from right to left or towards the headstock as in fig. 12, a right hand tool is used, while work being turned toward the tailstock, as in figs. 15 and 16, will require a left hand tool.

Tools for cutting brass or bronze as



well as the threading tool, the cut-off tool, and the boring tool will be taken up in further detail in later issues.

In addition to the high speed steel tool bits mentioned above, there are several other types which should be included in the model maker's lathe equipment. These are Haynes Stellite tool bits and tungsten carbide cutting tools. The Stellite tool bit was first made by the man who pioneered one of our first automobiles, Mr. Haynes, of Kokomo, Indiana.

These tool bits are made from a non-magnetic alloy which is considerably harder than high speed steel and will stand a much higher cutting speed as they do not lose their temper even after being heated red hot from friction generated by taking the cut.

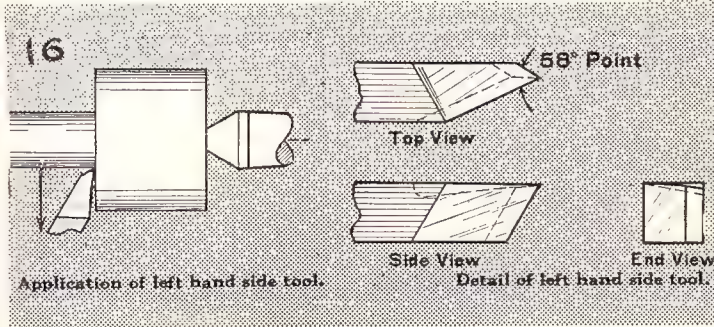
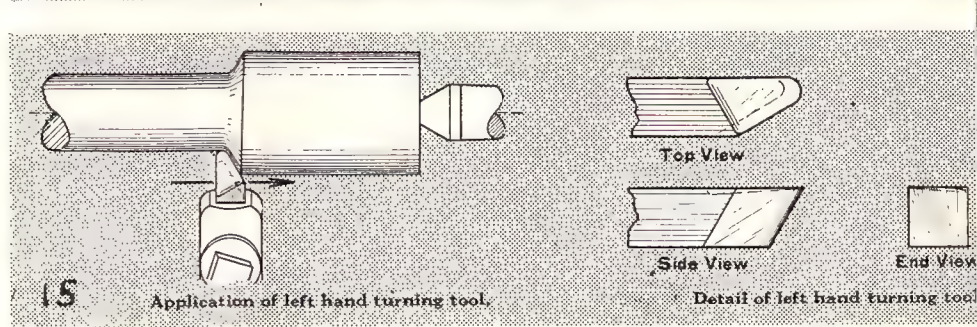
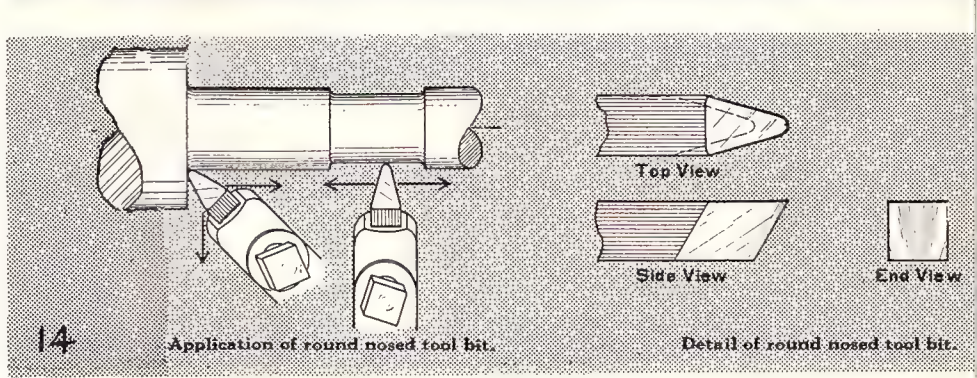
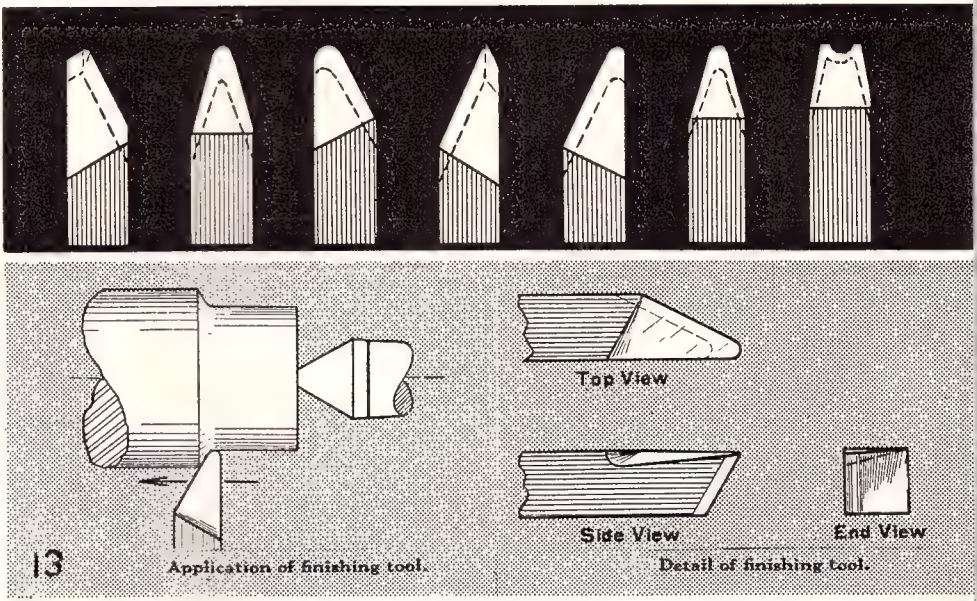
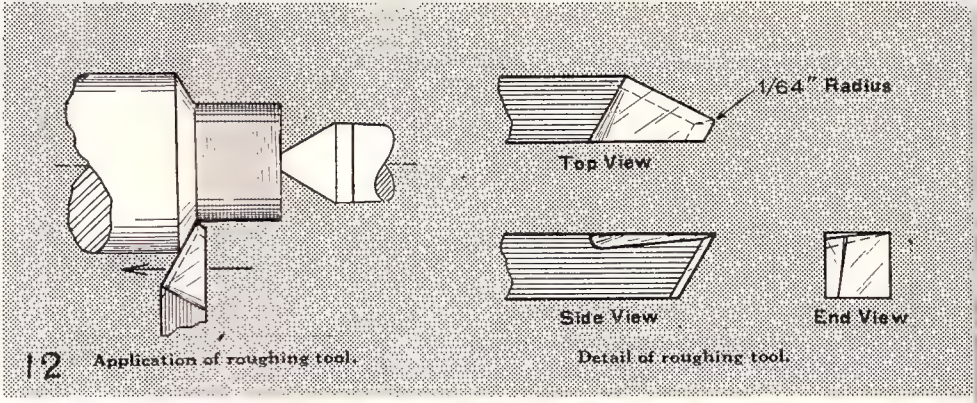
Stellite is more brittle than high speed steel and for this reason should have just enough clearance to permit the tool to cut freely, as the cutting edge must be well supported to prevent chipping and breaking. These tool bits will machine the new high strength cast iron, hard steel, bronze, etc., and will find much use in the small home shop on the extra difficult job.

Tungsten carbide tipped tools are made from powdered metals shaped in moulds under tremendous pressure and sintered at high temperature until one of the metals, generally cobalt, melts and binds the other unmelted metals together. The tool tips are then shaped as desired and again sintered at high temperature giving the tool its final hardness which is the hardest metal known, nine tenths the hardness of a diamond.

These tools are highly efficient in machining cast iron, hard bronze and abrasive non-metallic materials such as fibre, hard rubber, bakelite and even porcelain. Their cutting edge will stand up where other tools would quickly break down. Since the last war these tools have become quite inexpensive and at least one should be included in the tool bit supply. Glass hard scale on iron or bronze castings can be cut with ease and many difficult machine jobs can be accomplished which would be impossible with other types of tools.

There are a number of different grades of cemented carbide tool bits which indicates there is no universal tool which can be used for all metals and materials. Further help in selecting the proper grade for the average work encountered in the model maker's shop will be taken up in later issues along with the grinding of these tools.

These tungsten carbide tool bits, as well as the Stellite tools are so hard they cannot be ground on the ordinary grinding wheel but require a special grade. This, too, will be dealt with further in an article on their use.



SPINDLE SPEEDS IN R.P.M. FOR TURNING AND BORING Calculated for Average Cuts with High Speed Steel Cutter Bits

meter inches	Alloy Steels 50 F.P.M.	Cast Iron 75 F.P.M.	Machine Steel 100 F.P.M.	Hard Brass 150 F.P.M.	Soft Brass 200 F.P.M.	Aluminum 300 F.P.M.
1	191	287	382	573	764	1146
2	95	143	191	287	382	573
3	64	95	127	191	254	381
4	48	72	95	143	190	285
5	38	57	76	115	152	228
6	32	48	64	95	128	192
7	27	41	55	82	110	165
8	24	36	48	72	96	144
9	21	32	42	64	84	126
10	19	29	38	57	76	114

• *Prototype Quiz* •

Below is one of a series of quizzes based on prototype ideas. We guarantee you'll rack your brains on this particular one. Each one of the figures below represents a common "SLANG" term heard frequently on

the various roads throughout the country. Associate the ideas and then turn to page 50 for the correct answers. 50% is a good batting average on this one!



30" NARROW GAUGE

By **JOSEPH R. RHODEN, JR.**

HERE'S another addition for your narrow gauge road, an 0-6-0 Side-Tank job. The prototype of this locomotive was built in 1921 by the H. K. Porter Co. Although built for 30" gauge, the dimensions are the same for either 24" or 36" gauges, the only differences being the gauge (*see fig. 2*). The same type locomotive for 4' 8½" gauge is almost identical, although its overall width is slightly greater.

PROTOTYPE DIMENSIONS

Porter 30" Gauge 0-6-0 Locomotive	
Cylinders, bore x stroke.	11" x 16"
Drivers, diameter.	31"
Wheelbase	7'8"
Length over Bumpers.	20'
Height (min clearance).	10'3"
Weight (working order).	43,500 lbs.
Water Capacity (side tanks).	650 gals.
Fuel Capacity (coal).	1000 lbs.
Fuel Capacity (wood).	45 cu. ft.
Boiler Pressure (per sq. in.).	170 lbs.
Tractive Force.	9,020 lbs.
Factor of Adhesion.	4.82
Radius, Sharpest Curve Advised.	80 ft.
Radius, Sharpest Curve Practical.	60 ft.

Build the entire locomotive of metal, a piece of $\frac{3}{4}$ " O.D. brass tubing being recommended for the boiler. Turn the stack and domes from brass rod and use heavy brass sheet for the tanks and cab. The main frame should be built up from bar brass, the side frames being $\frac{1}{8}$ " thick and the spacers $\frac{1}{4}$ ". Use a gear ratio of at least 29:1, 36:1 being recommended (worm and gear for Mantua's 0-4-0 is about 36:1—these locomotives were built to operate at a maximum speed of 20 to 25

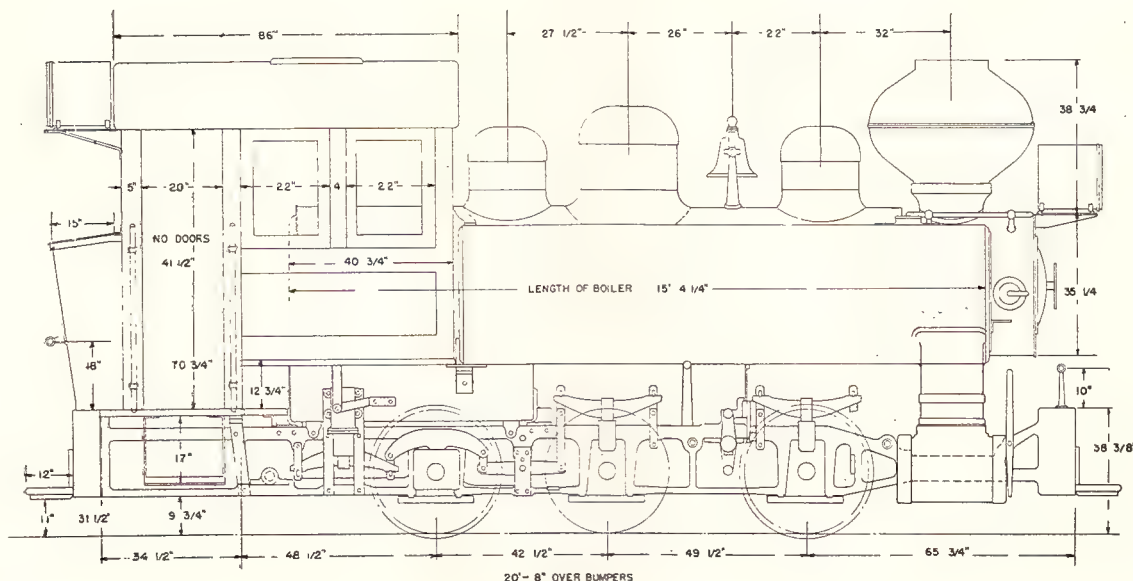
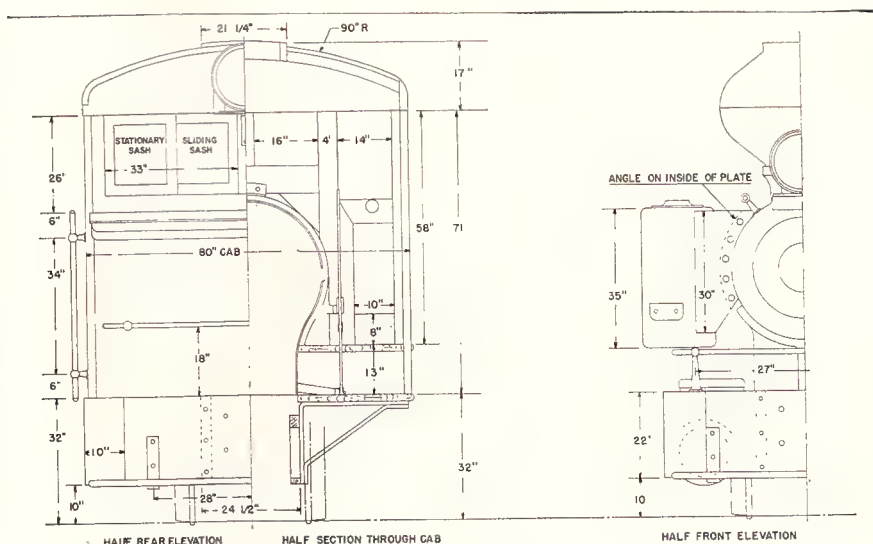
miles per hour; the high gear ratio being used to give maximum power with a fairly low maximum speed). Use either Mantua's HO motor or the Pittman DC-60 (both 12-volt DC permag). The Pittman motor may be too large to fit in an upright position, so you may have to lay it on its side. In this case, make the side-tanks as shown in fig 2. Use a regular O-gauge bell and whistle. The locomotive should be built to NMRA standards, with two-rail being recommended.

Figures 3 & 4 show how to make operating front and rear headlights. Figs. 3A & 5 are schematic diagrams for series hook-ups of one or two bulbs (Note: the resistance given is for 2.5 volt, 5 amp. bulbs) pea lamps being recommended.

Use OO-gauge axles for On-3 ge., HO axles for On-2½ ge. It will be necessary to turn your own axles for On-2 ge., or have them made for you. (For parts, write to Edmund Collins, Kutztown, Pa.)

The smokestack shown on the plan is known as a "Cabbage" stack, and locomotives equipped with this type generally burn wood. If you prefer a "Straight" stack, however, refer to the plans for the 3' 0-4-0 locomotive in Aug. '47. Porter builds these locomotives with either type stack, but personally, I believe the cabbage stack makes the nicer looking model—*certainly it's unusual!*

Either the Walschaert or Link-Motion valve gear may be used, as the prototype comes equipped with either. Never use the Baker Valve gear on a switcher—particularly a narrow-gauge job!



Steam Driven Feed Water Pump

PART II

By LITTLE ENGINES

FOR the main valve piston, inasmuch as the steam ports are $\frac{3}{32}$ " wide, the valve travel of the main valve will be $2" \times \frac{3}{32}$ " which equals $\frac{3}{16}$ ", the total travel. Therefore, the main valve piston will be $1\frac{1}{32}$ " to work in the valve chamber of $2\frac{1}{4}$ " long, taking into consideration the $\frac{1}{16}$ " gaskets and the distance of $\frac{1}{16}$ " that the valve chamber heads extend into the main valve piston chamber. The heads act as stops for the main valve piston, so that it will not carry the main valve beyond the ports and upset the valve events. The main pilot valve dimensions are clearly shown, also the pilot valve rod and the trip rod. Both main and pilot valves should fit in their respective recesses without end to end "shake" but still free to move up and down to allow the valves to seat themselves on their port faces.

PISTON—This item forms the steam piston rod and the water pump ram end should be carefully finished within the limits given. The diameter should be true and smooth to be leakage free at the glands. You can use bronze piston rings in the piston if you wish. You can use two rings in the same slot, or you can use standard valve stem packing. As the piston does not cross any ports in its stroke, the graphited valve stem packing will work satisfactorily because the pump being made of bronze is naturally not to be used with highly superheated steam anyway, so the packing will give good service and require only infrequent renewals. You will realize that the depth of the cavity in the piston rod is the controlling factor in the valve action. For your information the following shows the method of arriving at this depth. The Pilot Valve Travel is: the stroke $\frac{3}{4}$ " minus two times the pilot valve port width of $\frac{1}{16}$ ", plus the trip rod bottom $\frac{1}{8}$ ", plus the piston, plus $\frac{3}{16}$ ". $\frac{3}{4}$ " minus $\frac{1}{8}$ ", plus $\frac{1}{8}$ " plus $\frac{3}{16}$ ", equals $1\frac{1}{16}$ " the total depth of trip rod cavity in the piston.

This leaves a net space of $\frac{3}{8}$ " for the movement of the steam piston before it actuates the pilot valve through the rocker arm pilot valve stem.

The item of fulcrum and base should be made as shown and it is of prime importance that the pivot pin hole be exactly midway between the trip rod and the pilot valve stem so that the leverage will be equal, otherwise the valve events will be thrown out of time and a failure to operate will occur. This part should receive particular attention both when making the fulcrum and its base and locating the assembly on the cylinder head. Measurement between centers of the trip rod and pilot valve rod is best made at the time of assembly. This is due to possible slight inaccuracies in machining

the parts and possibly different gasket thickness. The measurements herein given were taken from our finished pump. It is advisable to check the measurement given above before drilling and tapping the fulcrum hole in the fulcrum base. In applying gaskets, use #2 black Permatex on the rough side of the gasket material. In this way you can, if need be, disassemble the gasketed parts without destroying the gaskets. Apply the Permatex very sparingly and do not get any of it into the steam cylinder, valve chambers or pumps and do not use oil on the pump ram or else the oil is liable to get into the boiler and cause foaming.

In assembling the pump the installation of the trip rod in the piston comes next. You will note the tapped hole in the water ram end of the piston. This hole is provided to enable one to screw a threaded rod into the end of the ram, so that the piston can be moved by hand from one end of the piston stroke to the other end. Incidentally, the stroke is considered to be the piston travel between the inner edges of the cylinder steam ports and the valve travel is figured on this basis to prevent the piston from striking the cylinder heads. When the pump is running with no load at high piston speed, the piston will sometimes strike the end of the cylinder. Avoid running the pump at high speed except when under load.

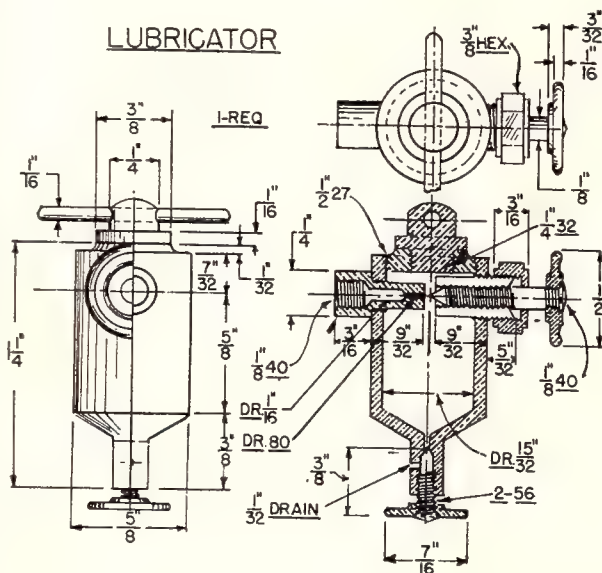
Install the trip rod in place and put on your cylinder head with the gasket. Put in a couple of head screws to hold the head on temporarily. Next fasten the main valve steam chest in place with the main valve and its piston. Fasten the pilot valve chest in place together with the pilot valve, screw the yokes onto the trip rod and the valve rod. Now is the time to check on the focus of the fulcrum. Measure the distance between the pivot pin holes in the fulcrum and pilot valve yokes and locate the fulcrum so that the distance is divided equally and the fulcrum thus will be midway between the trip rod and the pilot valve rod. This will insure no distortion of valve movement due to unequal leverage. Set the rocker lever in place, using $\frac{1}{8}$ " rivets, drilled for $\frac{1}{32}$ " split cotter pins. Screw the $\frac{3}{32}$ " piece of rod into the piston rod end, push the piston up against the cylinder head, mark the rod at this

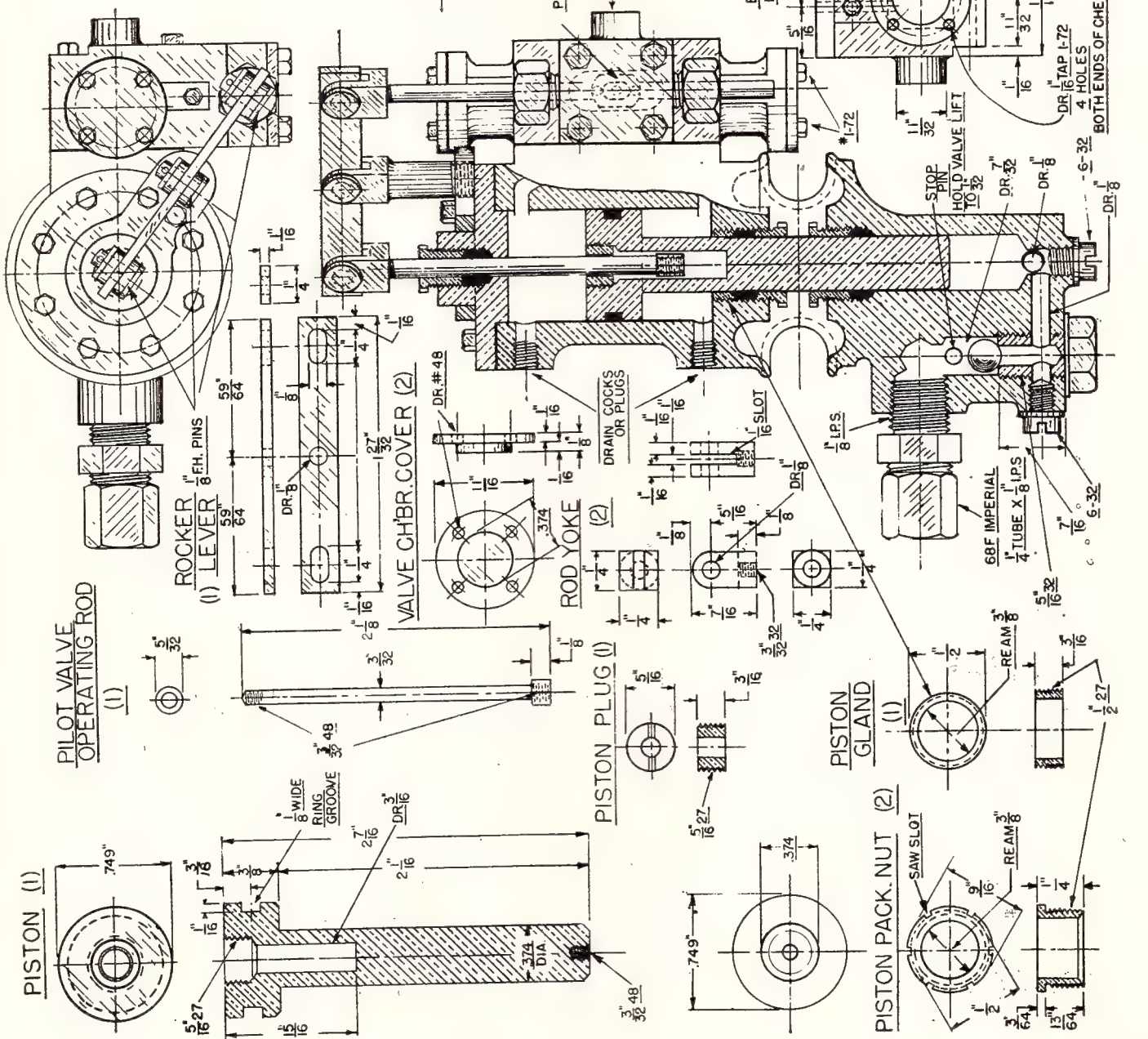
position, then pull the piston down $\frac{3}{32}$ " (the width of the top cylinder port) mark the rod and pull the piston down $\frac{3}{4}$ " (the stroke) and mark again. Now when the piston is moved back and forth between the stroke marks the pilot valve should just uncover its port as the piston arrives at the inner edge of the cylinder ports as marked.

Adjust your yokes on the valve and trip rod until these events occur. When the pilot valve is central on its port face, both pilot valve steam ports should just be uncovered and the rocker lever is to be horizontal at this point. You may have to cut a few extra threads on the valve and trip rod, or it may be that you will have to shorten these rods a trifle to get the right setting. The foregoing necessary procedure is the reason for the temporary assembly of the pump. After all adjustments have been made, remove the cylinder head, take out the piston and screw its plug in tightly with the trip rod in place, of course. Then lock the piston plug in place with a prick punch at the thread edge.

Oil and put the piston back and fasten the cylinder head down; pack the trip rod gland with woolen yarn oiled and graphited or with a strand of standard valve stem packing. Screw the gland in place, put on the trip rod yoke, set the rocker lever in place, put in the pins, pack the valve stem gland, put on its yoke and the pivot pin, leave cotter pins out until the last. Now before you put the pilot valve chest cover on, recheck the valve movements and when the yokes have been adjusted, so that the parts are uncovered by the valve in proper sequence, remove the temporary screws from the valve chest and put the cover on and draw the cover and chest down onto the port face. Put the main valve chest covers on together with their gaskets and screws and tighten them. Pack the piston rod with valve stem packing. Do this job carefully or you will scratch or mar the rod and there will be an unpackageable leak. Use a piece of thin plastic to

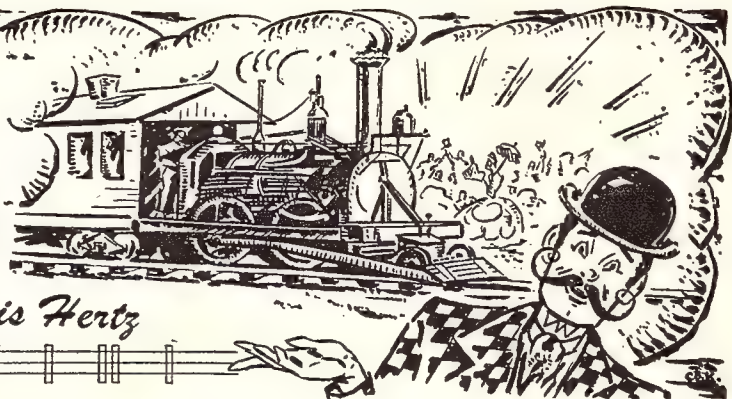
(Continued on page 48)





BING AMERICAN TYPES

along the tinplate track with *Louis Hertz*



WHENEVER a few old tinsplaters gather together and start to exchange reminiscences, sooner or later someone will commence talking about Bing, particularly about Bing American type lithographed cars.

"Why, I can remember big tables in the department stores just loaded with hundreds of cars at Christmas time," one will start in. "Nothing but separate cars for fifty cents, or seventy-five cents, or at most a dollar each. And the lithography—boy!"

"The little neighborhood toy stores used to have them, too. I used to go in and try to decide which car out of a dozen different ones I wanted, and then I'd change my mind and start all over," another adds.

Then they turn to a third. "You used to go to the Bing showroom. What was it like? Did they have samples of all the cars there?"

"It was on Union Square in New York," the man who has been in the Bing showroom will begin. "It was immense, with all kinds of toys and other goods displayed. They had five or six displays of cars, each one about as long as from here to the door. There must have been about fifty cars on each rack."

"Why, that's three hundred cars!" another exclaims. "You don't mean three hundred all different cars, do you?"

"Well," his friend will admit reluctantly, "maybe they weren't *all* different."

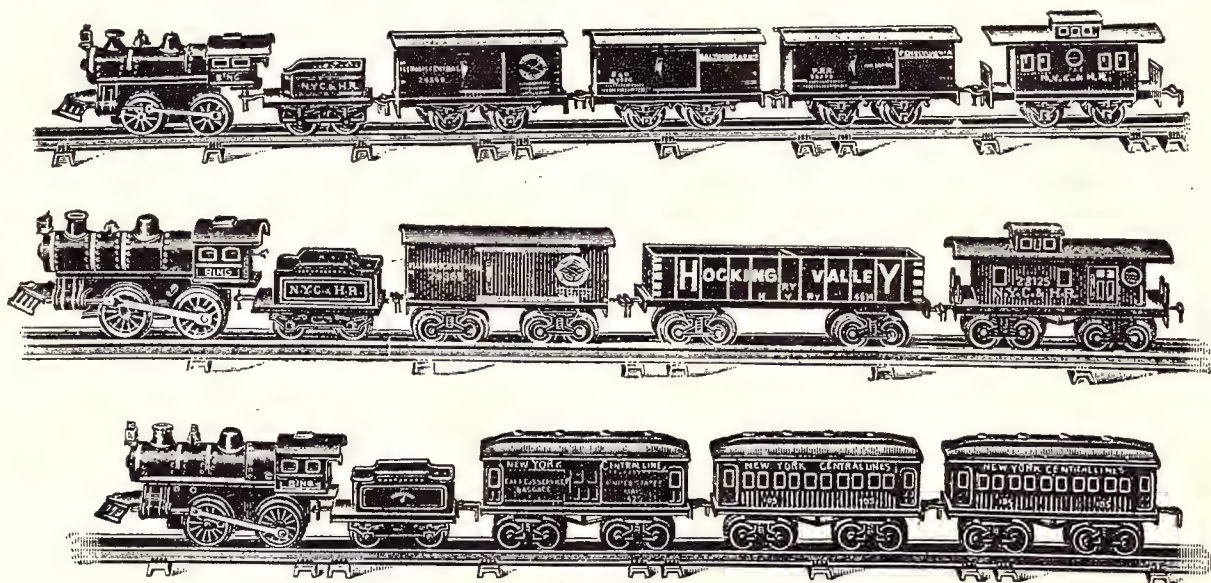
Nevertheless, this figure of three hundred different cars is not quite as ridiculous as it may seem. The extent of the Bing line was simply prodigious. The most complete catalog of their American line, believed to have been issued around 1912, lists no less than seventy-nine different special American type cars! These were all actual American designs, in addition to a number of European types which were included such as derrick cars and snow plows.

Yet this listing only scratches the surface. Passenger cars are recorded as then being made lettered only for the New York Central and Pennsylvania Railroads. While these always remained the more common types, it is known that Bing also produced cars lettered for the C. M. & St. P., the Canadian Pacific and the Erie. It is not yet known if all the cars were made in these styles, but there is strong evidence that at least the first two names were applied to most of the different passenger cars, and eight wheel O and No. 1 gauge Erie coaches have

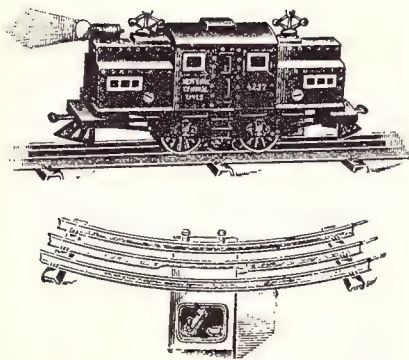
been found, as well as an uncataloged four wheel Erie box car. Other uncataloged freight cars are known, and were added to the series from time to time.

In addition, most or all of the No. 1 gauge cars were later made with trucks for 2 $\frac{1}{8}$ " gauge, and, oddly enough, at the other extreme, some of the same cars were also put out with O gauge trucks, to provide an oversize O gauge car for promotion sets. Certain of the cars were actually put out with the sides lithographed to resemble both wood sheathing and steel siding, and in 1931, when Bing brought out their automatic uncoupler, a few types of American cars were manufactured with this device.

Not counting minor varieties of coloring, lettering, the beer cars with the word "beer" obliterated in the prohibition era, changes in roofs, or changes in trademark from GBN, to GBN and BW together, and finally to BW, our estimate would be that between about 1910 and 1933, Bing manufactured approximately 125 different major models of American type cars in O, No. 1, and Standard gauge. Not all of these cars were made at the same time, of course, but it is certain that at some stages in their history,



Here are three typical O gauge Bing American type clockwork trains. Bing often made up a set with several different heralds of the same car, as in the case of the four wheel box cars. The caboose-way car design was standard on all Bing eight wheel cabooses. As can be seen from the gondola car, not all Bing freight cars in a single series were the identical length.



This 0-4-0 is typical of Bing's O gauge cast iron electric types. Beneath it is shown Bing's special track section with built-in switch or rheostat.

Bing was manufacturing over one hundred different American type cars. This, it must be remembered, was just one line. At the same time Bing was also manufacturing complete lines of cars for both the continental European and the English markets. Bing's 1930 continental line, for example, consisted of about 140 different cars. It is very likely, therefore, that at one time Bing was manufacturing between 250 and 300 different cars simultaneously!

A certain few of the dies were used in all of the lines. The four wheel tank, cattle, and hopper car bodies are identical in certain models in all three lines. However, aside from different lithography, the European cars can be distinguished by the buffers, or the automatic or link couplers. Bing cars for the American market, with the exception of those with automatic uncouplers, always were fitted with ordinary hook style couplers. This made them interchangeable with virtually all of the domestic lines of the day, and owners of Ives, American Flyer, and other makes could freely add separate Bing cars to their outfits. This was, of course, one reason for their great popularity.

And now we will endeavor to satisfy the often expressed desire on the part of our readers for a check-list of the American type freight cars, presenting here as complete and authentic a list as it is possible to prepare at this date. All of the cars listed below are known to have been made. We would be very interested in hearing from anyone who has, or knows of, a Bing American type car not recorded here.

O Gauge, 4 wheel

Box car: NYNH&H, B&O, CRRofNJ, Penn. RR, Illinois Central, Santa Fe, Erie, Canadian Pacific.

Refrigerator car: Swift, Old Dutch Cleanser, Pabst, Schlitz, Budweiser.

Cattle car: no lettering.

Caboose: NYC, Penn. RR, CMSt.P&P, Canadian Pacific.

Tank car: Peerless.

Gondola car: Penn. RR, Hocking Valley.

Hopper car: Penn. Coal & Coke Co. Lumber car: no lettering.

Dump car: no lettering.

O Gauge, 8 wheel

Box car: NYNH&H, B&O, CRRofNJ,

P&R, Penn. RR, Illinois Central, Santa Fe, Erie, Canadian Pacific.

Refrigerator car: Swift, Old Dutch Cleanser, Pabst, Schlitz, Budweiser.

Cattle car: no lettering.

Caboose: NYC, Penn. RR, CMSt.P&P.

Tank car: Peerless.

Gondola car: Penn. RR (PY&ARR), Hocking Valley, International & Great Northern.

Hopper car: Penn. Coal & Coke Co.

Lumber car: no lettering.

Dump car: no lettering.

No. 1 Gauge, 8 wheel

(Note: It may be assumed that all of the following No. 1 gauge cars were also made with Standard gauge trucks.)

Box car: NYNH&H, B&O, CRRofNJ, P&R, Penn. RR, Illinois Central, Santa Fe.

Refrigerator car: Swift, Old Dutch Cleanser, Budweiser.

Caboose: NYC, Penn. RR.

Tank car: Peerless, American Leather Co.

Gondola car: Penn. RR, Hocking Valley, International & Great Northern.

Hopper car: Penn. Coal & Coke Co.

Lumber car: no lettering.

While the cars, the majority of which were lithographed (certain lumber, hopper and tank cars being the exceptions), are probably the most interesting of the Bing American type products, mention must also be made of their extensive line of clockwork and electric locomotives. While Bing at times did "Americanize" a few European locomotives by adding pilots, the great bulk of their sets sold in the United States were equipped with special cast iron American type locomotives. Further, unlike many foreign-designed American locomotives, the Bing models were extremely competent designs, and for the most part equal in appearance and realism to contemporary domestic productions. It was this quality which made Bing trains so attractive and readily salable in this country.

The clockwork and electric lines paralleled each other closely, and it is believed the same castings were used in many instances, no headlight or a dummy

(Continued on page 48)

THE BING MINIATURE RAILWAY SYSTEM

SEPARATE CARS

for Gauge 0 = 1 1/8 in. wide.

Series II Express Train cars with 8 wheels.

Freight Cars.



Box Car with 2 sliding doors,
6 1/2 in. long.

525/410/0 P. & R. R. R.



Box Car with 2 sliding doors,
6 1/2 in. long.

525/510, 0 Pennsylvania R.R.



Box Car with 2 sliding doors
6 1/2 in. long.

525/610/0 Illinois Central R. R.



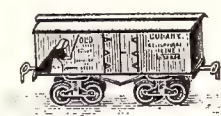
Box Car with 2 sliding doors,
6 1/2 in. long.

525/710/0 Santa Fé R. R.



Refrigerator Car with 2 double
hinged doors,
6 1/2 in. long.

525/84/0 Swift Premium
Hams.



Refrigerator Car with 2 double
hinged doors,
6 1/2 in. long.

525/83, 0 Old Dutch Cleanser.



Refrigerator Car with 2 hinged
doors, 6 1/2 in. long.

5/60/0 Annhauser Bush
Brewery.



Refrigerator Car with 2 double
hinged doors,
6 1/2 in. long.

525/82/0 Pabst Brewery.



Refrigerator Car with 2 double
hinged doors,
6 1/2 in. long.

525/81/0 Schlitz Brewery

At one time Bing made over one hundred different American type cars! A variety of heralds was featured on many types of passenger and freight cars. This page from a Bing catalog shows a small portion of their line of lithographed O gauge American type freight cars. The refrigerator cars had hinged double doors.



ORE TRAIN winding around a hair pin curve (14" R.) and up a 2% grade on the HO gauge GD Line of John Allen, Monterey, Calif. All ore cars and caboose are from the GD shops, the 0-4-0 has working head and rear lights. The semaphore is home built (Operating) and the old timber portal in the background was made from a Model Structures Co. authentic plan.

Photo by John Allen

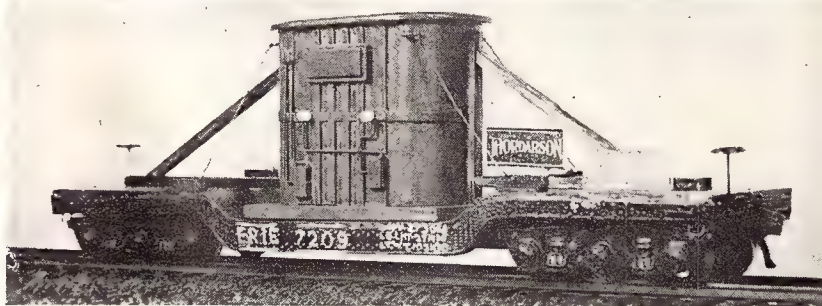


WANT THREE BUCKS?

That's what we're paying for both photo and appropriate caption appearing on this page. Two bucks for each photo without caption. Here's a good chance to let your "nabor" see your work and make some easy money in the bargain. Photos are selected on a basis of good photography and reader interest. We do not limit you to some super-detailed model, so don't be bashful—your photo may be the next to appear on this page. Include all pertinent information regarding scale, gauge and all interesting facts. Send material to the Picture Editor, Model Craftsman, Ramsey, N. J. Photos will be returned on request.

HO GAUGE depressed center flat car with a huge Thordarson transformer. If that car isn't picked up soon, some little town will be without power. This flat is the work of Paul Dreykus, Newark, N. J.

Photo by David Winans



THIS O GAUGE PULLMAN is the work of Alex Galka of New York City. This car was built entirely from scraps of tin and wood found in the workshop. Note the rivets and other details, no wonder it took 2½ months to complete.

CARVER STATION on the Main Line of the Hempfield, W. Va. Terminal Railroad Club's O gauge layout. That detailed rolling stock is the work of W. J. Gwinn.

Photo by W. J. Gwinn



If You Haven't Read This Book Yet, A Great Experience Awaits You!



Here is what some readers say about this book:

"I'm telling you I became so absorbed in it that I didn't want to lay it down. It is the kind of a book that as a kid I used to dream of being written by someone some day, but never thought actually would be."

William R. Clapper
Troy, Ohio

"I bought it and found it so well written and fascinating that I stayed up until 3 A.M. the next few nights reading."

William B. Davidge
Brooklyn, N. Y.

"I can very truly say that I have seldom enjoyed reading anything more than I did this. It really hit the spot . . . please accept my sincere congratulations upon the splendid job you've done, and my thanks for making available all the data and information that would otherwise be unknown to most of us."

Duncan L. Bryant
Princeton, Ill.

"To say I certainly enjoyed it is putting it mildly indeed. The book is wonderful and I only wish I had discovered it sooner. The illustrations are very good and the index is a masterpiece."

Gordon M. Potter
St. Joseph, Mich.

"It kept me awake until the small morning hours with its wealth of tinsplate lore. Your book has that 'Oliver Twist' whetting of the appetite that makes your readers say 'More!'"

J. S. Kuster
Newark, Ohio

When you were a boy, and the lure and lore of toy and model trains was a new found fascination, or in later years, when you had enjoyed these things with somewhat more knowledge of their mysteries, didn't you ever wish that someday someone might set down the romance of these little trains and capture the essence of their attraction on the printed page?

Every man carries happy memories of his first experiences with miniature trains: the frosty store window with the speeding electric train within—one's first sight of new magic. The little wind-up set with its brave cast iron locomotive, and the blistered fingers from turning the key. The penny post cards asking for catalogs, and the urgency of watching the postman for the arrival of the year's new issues bearing the magic names, each sounding a chord of romance—Carlisle & Finch, Voltamp, Lionel, Ives, Dorfan, and dozens more.

All this, and more, is recaptured on the pages of "Riding the Tinsplate Rails" by Louis H. Hertz. This is a truly wonderful book, a large book, devoted entirely to the saga of toy and model trains. Here you will meet the pioneers of the 1860's, with their crude trains of wood or tin; the first daring experiments of Beggs and Weeden with steam operated models; the coming of the electrics, and the names that made them great. The backgrounds of the companies you once knew only through their catalogs unfold, and names like Knapp, Hornby, and Ives become personalities of intense interest. You step into a not too distant but completely vanished past and spend a glorious day with the author at the old Dorfan factory in Newark, N. J. You tour a modern train factory and are amazed at the complexity of its techniques. You laugh at the humor and satire which has distinguished the hobby. And you journey with the author to a little town in Connecticut on the trail of the origins of the immortal Ives Company.

This is a book which has been acclaimed around the world as a unique masterpiece, one of the most interesting and fascinating books ever written! It is a book which every man, regardless of his present hobby interests, will want to read and own. For here, captured for all time on the printed page, is the magic, the nostalgia, the romance of the little trains which each of us, regardless of the years his boyhood touched, once knew.

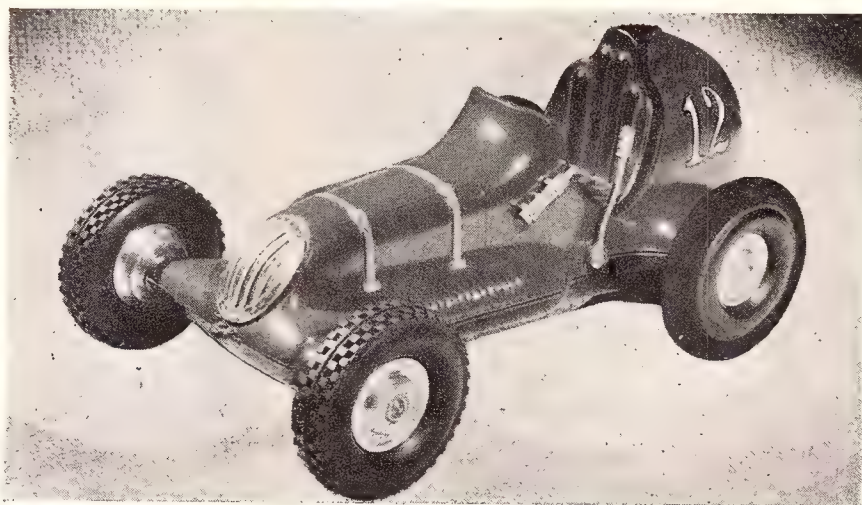
RIDING THE TINPLATE RAILS

By LOUIS H. HERTZ

279 pages, profusely illustrated with photographs and rare wood blocks of over 150 models and scenes, beautifully bound in cloth and boards and lettered with gold leaf imprints, \$3.50 per copy.

MODEL CRAFTSMAN

Dept. 337, Ramsey, New Jersey



Race cars are classed in two general groups, rail and cable cars. They are also broken down into streamline and prototype classes. Some race car fans care little for the cars appearance but devote every effort to break old speed records. Others prefer to keep their own car an accurate scale model of the prototype, usually selecting a conventional man-carrying, open cockpit style racing car as seen on most race tracks.

For the body of the car, we have chosen an inexpensive, well made, die cast job put on the market as a toy and to be run without motor on the end of a cable swung in an arc by hand. The body of this car lends itself well to motor installation and, as it is a small car, a new compression ignition type motor, class A, was selected. This type of motor will eliminate batteries, coil, condenser and the entire electrical ignition system used on the conventional gas motor. This will simplify construction and installation so necessary for the beginner. As experience is gained, it will be natural to switch over to the faster, high powered cars prevalent throughout the country. To complete the assembly of this model all that is necessary is a gas tank, flywheel and motor mount. The motor mount can be purchased in kit form or made up in the home work shop.

is obtained from any drug store. Keep this fuel in well corked containers.

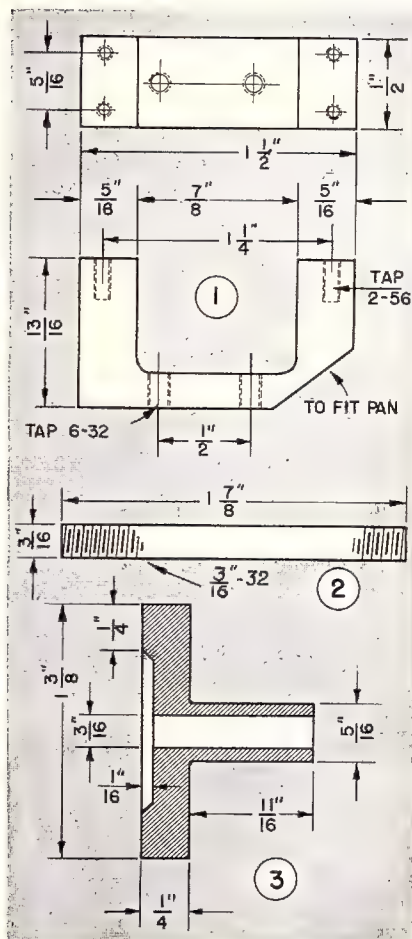
With the race car itself and the little motor on hand, the work of installing the motor can be started. If a metal lathe is available, the flywheel and motor mount may be machined in the shop, otherwise these two parts had best be purchased ready made with the flywheel turned to the correct size and weight and motor mount machined to exactly the proper height and drilled and tapped for the hold down screws, and the shaft extension threaded to fit the motor and cut off to proper length.

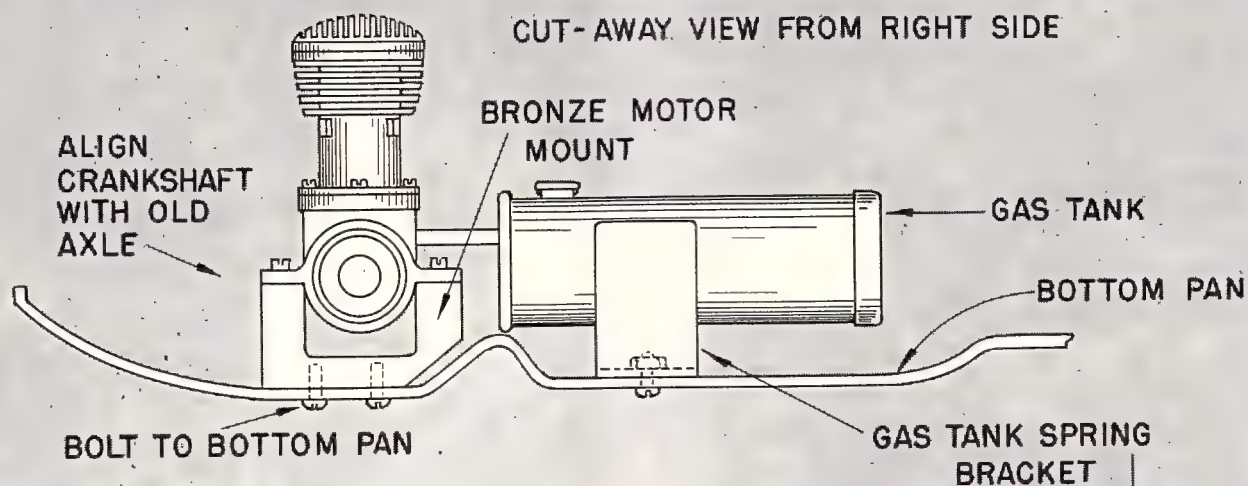
The success of the entire project will depend largely on the accuracy with which these parts are fitted. To assure a reasonably fast car, the motor crank shaft must be accurately aligned with car's rear axle. This is important as there can be no binding or misalignment anywhere if the full power of the motor is to be utilized.

As the drawings and photos show, the car is to be driven from the left rear wheel with the motor connected directly to the axle. With this arrangement, the flywheel is placed outside the car body. The rear axle bearing hole is enlarged by drilling and reaming to $\frac{5}{16}$ " in diameter to fit the bushing, which is an integral part of the flywheel and acts as part of the new axle assembly. This complete assembly is firmly fastened to the motor crankshaft with the threaded extension shaft furnished in the kit and shown in the photos and drawings.

Great care should be used in drilling and reaming this axle hole to keep it accurately in line with the opposite one. If a lathe is available this will be comparatively easy. With the body and lower part of the car firmly bolted together, the right rear axle hole can be held against the tailstock center while the left hand axle hole is opened out with a drill mounted in the headstock chuck. The final reaming operation can be done in the same manner. In each case, the lathe should be run at low speed and the work fed to the drill or ream with the tailstock handwheel.

(Continued on page 40)





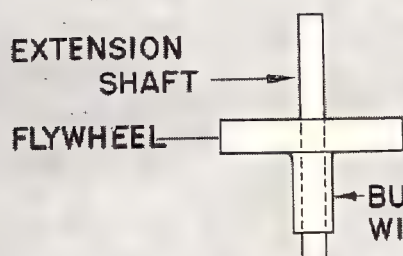
LEFT REAR WHEEL DISASSEMBLED

NUT

LOCK WASHER

TIRE

BOLTED TO
BOTTOM PAN

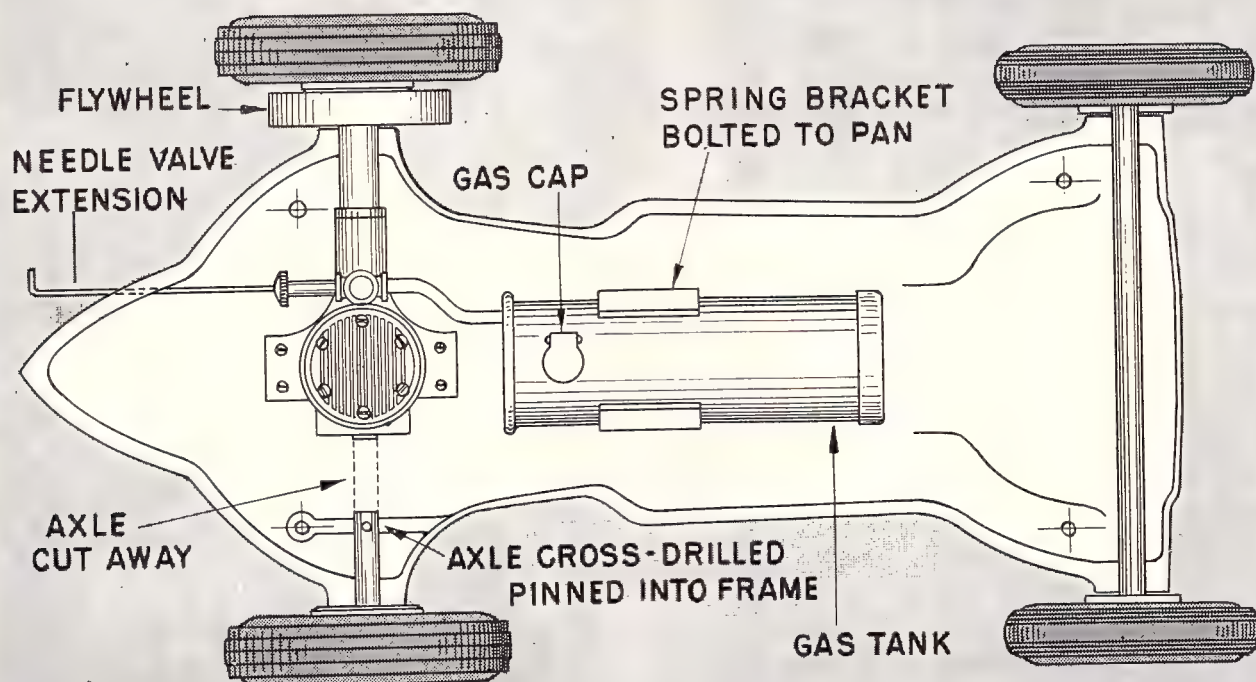


CROSS-DRILLED
FOR PIN

END OF REAR AXLE
CUT OFF

BUSHING INTEGRAL
WITH FLYWHEEL

RIGHT REAR
WHEEL



SOUTHEASTERN CHAMPIONSHIP RACES BIG SUCCESS

THE Atlanta M.R.C.C. staged its first big sanctioned event, The Southeastern Championship Races on the weekend of September 20th and 21st. Fifty-eight cars from six states were entered and excellent weather prevailed. The fellows from the "Peach Tree State" may well be proud of the manner in which the races were run off. Those who were in a position to know said that it was even better than the Nationals. All the club members did their share to make this a good race with the hopes of having the honor of the Southeastern Regionals next year.

The two day event was run smoothly and on a split-second schedule, it showed that the host club had planned its events well and given considerable forethought to the smallest details. Officials and committees were on the job at all times and all questions or protests were handled quickly and to the mutual satisfaction of all concerned.

The Atlanta track is located on Chester St., just off Memorial Drive between a sports arena and baseball field, and has ample parking facilities to handle large crowds. A large gallery of spectators numbering several hundreds found vantage spots around the track from which to view the events in complete comfort and safety. A new timer, timer-house, pits and P. A. system make the track one of the best equipped in the area and a temporary concession stand set up on the grounds made it easy to take care of the needs of the "inner man." Briefly, the Atlanta Club thought of everything.

Track records were broken frequently as the fellows tuned their cars for the heats, but the outstanding performance of the day's events was turned in by little "Skipper" Ray, a typical American boy who showed the older folks that the kids of this Nation know something about making the wheels go 'round. In 3 heats, "Skipper" ran his Coeffield-Coeffield at 115.97, 116.88 and 118.26 miles per hour to take first honors in the Spur Class and set a new track record for the Atlanta circle.

"Doc" Patrick, a local dentist, gave the boys something to worry about when he pushed his own "Upper Plate Special" to some dizzy speeds to finish well up in the top brackets and then set a new track record in the special event. Bill

Charles' car (Fox-Dooling) was well on its way to setting a new track record for the Protos, having a lap speed of 115 MPH, when it developed engine trouble after three laps and dropped to an average for the heat of 105.50 MPH. Again in the Special Race, this same car attained a lap speed of 115 MPH, but had to be flagged out after four laps when the front axle bent and threw the wheels out of alignment. Ivan Tarbert had about the same kind of luck when his car reached a lap speed of 115 MPH and then developed engine trouble.

Top speeds in all the events were possible largely due to the fact that the track was cleaned after each heat. This is a good practice that others should be glad to imitate.

Thirty-three prizes were awarded with 17 in the Proto Class, 11 in the Spur Gear Class, 2 booby prizes, 1 hard luck prize, and finally the Atlanta Club President's award for the best car which was taken by C. Taylor with a car of his own design. F. J. Gomme, of Miami, was awarded the hard luck trophy. He really earned it. For two days he worked trying to get a run in with two cars, but luck wasn't with him. In addition, a new Dooling car was given away as an entrance prize and was won by "Skipper" Ray.

The only mishap of the two day meet was suffered by Frank Roberts, of Atlanta, when the top of his new Papino car came off. The screw came loose and the top shell hit the crash wall and smashed to pieces.

A few days before the race, the club was lucky enough to get a new Acme timing unit. If you other clubs are having trouble trying to rig up a clock, get an Acme, it's well worth the money.

The officials in charge of this very excellent meet were: C. E. Simmons, Recorder; K. R. Monroe, Timer; J. K. Coppage, Steward; F. K. Dudley, Referee. Mrs. K. Monroe gave valuable assistance during the two days as Assistant Recorder and Mrs. C. E. Simmons was in charge of the concessions. Results of the racing follow:

70 Ft. Cable Track, One-quarter Mile Races Three Heats

PROTO-	
Ivan Tarbert.....	Fox-Dooling.....110.56
Bill Arnold.....	Invader-Dooling.....109.09
C. Taylor.....	Own-Hornet.....107.91

R. E. Patrick.....	Own-Dooling.....107.52
Bill Charles.....	Fox-Dooling.....105.50
J. G. Hare.....	Invader-Dooling.....105.14
J. K. Coppage.....	Own-Dooling.....105.01
Dan Dyer.....	Invader-Dooling.....104.65
D. H. Parker.....	Own-Hornet.....102.62
Pat Gupton.....	Invader-McCoy.....101.69
H. G. Ivey.....	Invader-Hornet.....100.55
Jack Hopton.....	Invader-McCoy.....99.55
Skipper Ray.....	Pacemaker-Own.....98.36
E. W. Haney.....	Invader-McCoy.....97.93
H. D. Merritt.....	Invader-Dooling.....97.08
J. Graden.....	Invader-Dooling.....96.56
J. E. Combs.....	Invader-Hornet-Mag.....96.25

SPUR-	
Skipper Ray.....	Coeffield-Coeffield.....118.26
J. K. Coppage.....	McCoy-McCoy.....110.70
Jack Ray.....	Coeffield-Coeffield.....110.29
Bill Arnold.....	Own-Hornet.....109.22
W. Glatthar.....	Coeffield-Ray.....106.50
D. H. McFarland.....	McCoy-McCoy.....105.38
Bob Sargent.....	McCoy-McCoy.....105.14
Cliff Drennon.....	McCoy-McCoy.....105.01
C. Taylor.....	Matthews-Hornet.....100.33
George Gunnell.....	McCoy-McCoy.....100.00
C. E. Simmons.....	McCoy-McCoy.....97.50

SPECIAL WORLD RECORD ATTEMPT FOR PROTOS

R. E. Patrick.....	Own-Dooling.....112.78
Bill Charles.....	Fox-Dooling.....110.83
Bill Arnold.....	Invader-Dooling.....107.78
C. Taylor.....	Own-Hornet.....107.14
J. E. Combs.....	Invader-Hornet-Mag.....95.03
Ivan Tarbert.....	Fox-Dooling.....Scratched**

** Motor froze at approx. 115.00 MPH.

PHILLY RAIL TRACK CHANGES POLICY

AT THE completion of the day's events on Sunday, September 21, Bill Yocum, owner of the Philadelphia rail track, announced that hereafter his rail track would be operated on a professional basis where cash awards will be given winners.

The racing at this track has been conducted all season according to AMRCA rules and most of the contestants have been AMRCA members. As soon as the new track policy was announced, those members of the Philadelphia Club present held a special meeting and decided not to run again on this track under the new policy in order to preserve their amateur standing.

As a reminder, the AMRCA rules on this point are as follows: Sec. 1—Article 3: "He must operate his car in official races purely for pleasure and not for financial profit, maintaining the status of an amateur." Sec. 1—Article 4: "He shall not receive cash or monetary award as prizes or compensation for the use of his car, or operate it for hire in any official race—"

The Philadelphia Club wants to go on record as backing up both the spirit and the letter of the AMRCA rules on this point to keep the sport a hobby and on an amateur basis. As amateurs they can compete in sanctioned meets in any part of the country and by turning professional, lose the privilege.



Photos by Annabelle Simmons

Photo on left shows the winners of the Southeastern Championships recently held in Atlanta, Ga. Center, presenting the entrance prize, a new Dooling Proto to "Skipper" Ray. On right is a good shot of the Atlanta Club's new 70 foot Cable Track.

YOUNGSTOWN PLAYS HOST

ON October 5th, the Youngstown Miniature Race Car Club played host for all Race Car fans throughout the State of Ohio in an effort to determine the fastest cars. There were 51 cars entered in the meet, and the designs of the cars resembled anything from mouse traps to Beetle Bugs. It took a manufactured car to show the Spur Gear Boys that the cars you buy in the hobby shops are still tops.

The Youngstown club wishes to thank the following for the great help they extended to make the meet so successful:

Mr. Guy Richards, Pres. of the Akron Club, for the loan of their all important P. A. System, and Mr. Gene Brown, who came in very handy; when a transformer burned out, he sure did a fast job. Mr. Hal Schultz did a wonderful job of announcing and was a wizard with his camera. He is responsible for some of the gadgets which come in handy around miniature tracks. Hal, together with Leonard Scheetz, the Youngstown Pres., get so many ideas, every time you run your cars you see something new. The club hopes the two fellows don't get any ideas about moving the concrete track around on the 58 acres of ground Mr. Scheetz donated for the purpose. There is talk about a rail track and another U-Control circle for the airplane boys.

Mr. John Bischoff for his most perfect timer and refereeing. He spent almost a year in planning and building the timer and is without doubt one of the most perfect set-ups seen anywhere in the country. It has a lap counter, a 3-minute time dial and a 1/100 of a second clock all in one unit. It has not given one minute's worth of trouble all season.

Mrs. Pete Anzivino, who is always a busy woman at any of the local meets; she does a swell job of handling the money and keeping the speed results in order. Let's get a few more of the wives interested; it really helps.

Mr. Earl Lemley, who does a perfect job on reading the 1/100 second stop watch, and always has a mess of prizes to give away tucked under his shirt when he comes up from East Liverpool. Thanks, Earl, and thank those business men in East Liverpool who contribute so very much to help our hobby be a success.

Fran Brennan for the beautiful trophies he sent up; the boys certainly appreciated them. And finally, to the Cleveland, Columbus and Akron Clubs for the help they extended in making the meet so successful. More than 3000 Youngstown spectators saw the race and were really surprised at the high speeds attained.

The weather held perfect for the day's racing. Results of the meet follow:

Joe Slikard.....	McCoy-McCoy.....	100.55
Leroy Lehner.....	McCoy-Hornet.....	99.77
Oliver Doonan.....	McCoy-McCoy.....	99.33
Howard Gill.....	Mathews-Hornet.....	98.90
Bill McPherson.....	McCoy-Hornet.....	95.23
Joe Feimer.....	Own-Hornet.....	94.33
John Bischoff.....	McCoy-Hornet.....	93.55
Fred Demers.....	McCoy-Dooling.....	90.63
Jim Hunter.....	McCoy-Hornet.....	90.54
H. Herrel.....	Own-Hornet.....	pass
Chas. Bickett.....	Special-Hornet.....	pass
Ray Hunter.....	McCoy-Hornet.....	pass

PROTO

Hal Martin.....	Own-Dooling.....	109.89
Bill Bissman.....	Invader-Dooling.....	103.09
Bill Walker.....	Farabend-Hornet.....	101.46
W. Mercer.....	Invader-Dooling.....	100.89
C. Bickett.....	Pacemaker-Dooling.....	100.22
Clyde Dillinger.....	Invader-Hornet.....	100.00
Bill Ringle.....	Pacemaker-Dooling.....	99.00
C. Stinnett.....	Pacemaker-Hornet.....	95.94
C. Miller.....	Pacemaker-Dooling.....	95.54
J. Eberly.....	Invader-McCoy.....	94.24
Leroy Lehner.....	Invader-Hornet.....	94.14
W. Wernitz.....	Pacemaker-Hornet.....	94.04
B. McPherson.....	Dooling-Dooling.....	93.94
Jack Yarger.....	Pacemaker-Dooling.....	91.64
Bob Cornell.....	Pacemaker-Dooling.....	89.37
Joe Slinkard.....	Pacemaker-Hornet.....	89.02
Jim Hunter.....	Dooling-Dooling.....	88.84
Jim McPherson.....	Pacemaker-McCoy.....	88.32
Gene Brown.....	Invader-Hornet.....	86.62
B. Miller.....	Invader-Dooling.....	86.45
C. Dunlop.....	Pacemaker-Hornet.....	85.55
Bill Williams.....	Invader-McCoy.....	83.48
Ray Hunter.....	Own-Hornet.....	82.49
L. Wilmet.....	Invader-McCoy.....	81.59
Earl Lemley.....	Invader-Hornet.....	78.80
Leonard Scheetz.....	Invader-Hornet.....	76.40
L. Eberly.....	Invader-McCoy.....	pass

TRI-CITIES MEET

WITH perfect Indian Summer weather prevailing, the Tri-Cities meet of October 5th got under way with 15 protos and 7 spurs entered. Cars representing Buffalo, Rochester, Auburn, N. Y., and Bethlehem, Pa., competed. The weather held good, in fact, as near perfect as one could ask for, and the speeds really spoke for themselves. To a good many tracks, the speeds made will seem rather slow, but to the Tri-City gang, they were wonderful.

This race was the proving of their new track and everyone was pleased with the results. Previously there had been doubt as to whether the track was too rough. A new cable of .047 piano wire was installed for the race and paid nice dividends in speed.

The race was running along pretty smooth, all cars had picked up a couple of miles over their average, until Howard Fox of Bethlehem, Pa., showed up. He

was getting caught up on the first heat in protos and on his first run turned in an even 100.00. Don Buffington was the clubs HOT man and his time for the first heat was 97.87. By now it was apparent that a lively time was to be had between Fox and Buffington. At each heat entrants and spectators alike edged forward to see the runs of each man. In the second heat Fox dropped to 95.74 and Buffington picked up to 98.90. In the final heat, Fox knocks out another 100 per and Buffington turns around and duplicates the feat. On the run-off, both Fox and Buffington made 98.90. On the second run-off, Fox dropped to 90.91 and Buffington came through with a fast 95.74. This close race between these two fast protos was the most interesting of the season.

The spurs did alright for themselves too. Ralph Hendrickson grabbed first spot with a speed of 102.27 and Jimi Petrakis and Elmer Carr tied up at 97.87. The tie was decided with a flip and Jimi came out on top. In six years of racing, this is the first time he ever received a trophy for all his hard work. Glad to hear you finally broke the jinx, Jimi.

All in all it was a fine race and next year will be even more enjoyable. This year was spent in building, next year will be devoted to burning rubber. All fans are welcome to run on the track located at the Tri-Cities Airport, Route 17C, Endicott, N. Y.

Results of the days' racing follow:

PROTO

Don Buffington.....	Dooling-Dooling.....	100.00
Howard Fox.....	Invader-Dooling.....	100.00
Elmer Carr.....	Dooling-Dooling (Mag.).....	96.77
Dick Bell.....	Own-McCoy.....	94.74
Marty Trumbauer.....	Invader-Hornet.....	92.78
Howard Fox.....	Own-Hornet (Mag.).....	92.78
Dave Reed.....	Own-Hornet.....	90.00
Jesse Jayne.....	Own-Dooling.....	89.11
Carl Cerwonka.....	Invader-McCoy.....	88.24
Jimi Petrakis.....	Invader-McCoy.....	87.38
Dave Reed.....	Dooling-Hornet.....	86.54
Art Myers.....	Dooling-Hornet.....	84.11
Harry Loveless.....	Dooling-Hornet.....	83.33
Don Jaroleman.....	Dooling-McCoy.....	pass
Jesse Jayne.....	Dooling-Hornet.....	pass

SPUR GEAR

Ralph Hendrickson.....	McCoy-Hornet.....	102.27
Jimi Petrakis.....	Mathews-Hornet.....	97.87
Elmer Carr.....	McCoy-Hornet.....	97.87
Harry Loveless.....	McCoy-Hornet.....	97.30
Ray DuColon.....	McCoy-Hornet.....	94.74
Clarence Orcutt.....	McCoy-Hornet.....	92.78
Sam Richende.....	McCoy-Hornet.....	92.78



Here are the fellas who competed at the Tri-Cities meet on October 5th. Standing l. to r. Dave Reed, Ralph Hendrickson, unknown, Don Buffington, Don Jaroleman, Howard Fox, Marty Trumbauer. Front Row, L. to R. Carol Lee Bell, Dick Bell, Jesse Jayne, Art Myers, Harry Loveless, Carl Cerwonka, Elmer Carr, Clarence Orcutt, Jimi Petrakis.

SPUR GEAR

Chas. Milliron.....	McCoy-Dooling.....	107.01
C. Miller.....	McCoy-Dooling.....	105.75
W. Wernitz.....	Own-Hornet.....	104.98
P. Anzivino.....	McCoy-Hornet.....	103.68
Cal. Stinnett.....	McCoy-Hornet.....	101.69

NEW HOBBY CENTRE FOR MONROE

By BILL WUNDERLICH

The Miniature Race Car Club of Monroe, La., was having a bit of tough luck when the writer dropped in to see them about a month ago. The club had been given the word that the land on which their Lakeside Country Club Track is located had been sold to a man who intended to develop it as a new sub-division. However, the investor did agree to permit the track to remain untouched until after the November 11th Classic. After the Classic, the track would have to be dismantled or abandoned to make room for much needed homes.

Although this was a terrific blow, the fellows got right together with other hobbyists in the vicinity to see what could be done about getting a new track site. The Airplane and Motorboat Clubs joined with the Auto Club and formed an association for the advancement of hobbies. Committees were selected to interview the necessary persons to secure permission to construct a new "Hobby Center."

A site was soon found in Bernstein Park on the outskirts of Monroe and the last reports show that the committee had met with success in obtaining permission to build their new hobby grounds. It will be known as the "Bernstein Park Hobby Center" and will have a race track, flying field and motorboat pond, as well as all other necessities that provide recreation and clean amateur sport.

Monroe is to be complimented and we are all looking forward to the completion of the project and an opportunity to visit their new hobby center.

RECORDS BROKEN AT BAKERSFIELD

ON September 27 and 28, the Bakersfield, Calif., MRCA sponsored a meet on their 1/20th mile cable track. Tremendous speeds were turned in and have been filed with the ARMCA, but as yet the records are unofficial. Stu Aleshire, with a spur gear streamliner of his own design powered with a Dooling engine, made the 1/4 mile at 121.95 MPH, the 1/2 mile at 121.29 MPH and the mile at 119.40 MPH. In the proto, A. W. Smith came up with a car of his own design powered with another Dooling and turned in 118.26 for the 1/4 mile, 118.03 for 1/2 mile and 116.09 MPH for the mile. All of the above mentioned speeds better the present standing World's Records, but as yet are unconfirmed. Those cars were really rolling! Ask any of the boys who saw 'em.

More than sixty cars were entered in the two day meet, and with perfect track conditions, excellent times were turned in. Following are results of the meet to tenth place:

ORIGINAL PROTO CLASS

A. W. Smith.....	Original-Hornet.....	118.26
H. W. Keathley.....	Original-Dooling.....	115.08
Dick McCoy.....	Original-McCoy.....	114.35

Nick Carter.....	Original-Dooling.....	113.20
Art Poore.....	Poore-Dooling.....	112.50
Ward Janssen.....	Original-Dooling.....	109.89
Wm. Stribling.....	Poore-Dooling.....	109.62
George Teasdale.....	Original-Dooling.....	109.09
Art Swift.....	Original-Dooling.....	106.88
Ted Lessley.....	Original-Hornet.....	102.27

MANUFACTURED PROTOS

Myrle Bartlett.....	Invader-Dooling.....	112.05
Louis Paradiso.....	Invader-Dooling.....	109.09
E. L. Luke.....	Pacemaker-Hornet.....	107.14
Nord Janssen.....	Dooling-Dooling.....	107.01
Nehi Hulbut.....	Invader-Dooling.....	106.76
Joe Grijalva.....	Dooling-Dooling.....	106.50
Roy Torrey.....	Invader-McCoy.....	105.63
Murray McIntine.....	Invader-Hornet.....	105.63
Earl Hutton.....	Dooling-Dooling.....	104.98
Bert Torrey.....	Invader-McCoy.....	104.65

SPUR GEAR

Stu Aleshire.....	Original-Dooling.....	121.95
Joe Grijalva.....	McCoy-Dooling.....	116.58
Dick McCoy.....	McCoy-McCoy.....	114.64
George Devers.....	McCoy-Dooling.....	114.35
Bill Marshall.....	McCoy-Dooling.....	113.78
John Eggleston.....	Original-Dooling.....	113.20
Wilmer White.....	McCoy-McCoy.....	111.80
Glen Spickler.....	McCoy-Dooling.....	111.24
Bert Torrey.....	McCoy-McCoy.....	111.11
Roy Torrey.....	McCoy-McCoy.....	111.11

CAPITOL CHAMPIONSHIP RACE

THE National Capitol Championship Races sponsored by the Washington MRCA were held September 28, perfect weather prevailing. Forty-two protos and 25 spurs were entered, trophies being awarded to tenth place in each class.

In order to permit out of town contestants an early departure, only two heats in each class were run. The fine sportsmanship and spirit of cooperation expressed by all contestants definitely contributed to the success of the meet and was surely appreciated by the sponsoring club.

Due to the excellent results of the race, the Washington Club has decided to make the National Capitol Championship Race its annual feature event. The last Sunday in September of each year has been established as the date.

Results of the days racing follow:

SPUR (Best time of 1/4 and 1/2 mile heats)

M. E. Anders.....	V-Car-Hornet.....	107.91
R. E. Kirwan.....	McCoy-Hornet.....	107.91
E. L. Taylor.....	V-Car-Hornet.....	107.14
P. A. Scholsser.....	McCoy-Hornet.....	106.76
H. W. Lowson.....	McCoy-Hornet.....	104.41
S. L. Tenberg.....	Coffield-Hornet.....	104.17
A. Remez.....	McCoy-Hornet.....	103.57
W. English.....	McCoy-McCoy.....	102.27
A. G. Pinkston.....	McCoy-McCoy.....	101.24
J. H. Householder.....	V-Car-Hornet.....	100.33
P. A. Scholsser.....	Coffield-Hornet.....	100.00
M. Janroy.....	McCoy-Hornet.....	99.56
W. J. Pittman.....	McCoy-Hornet.....	99.12
B. P. Heiss.....	McCoy-McCoy.....	98.90
J. Long.....	McCoy-Hornet.....	98.79

PROTO (Best time of 1/4 and 1/2 mile heats)

Joseph Ilg.....	Invader-Dooling.....	103.69
Howard Frank.....	Invader-Dooling.....	103.09
Joe Waldman.....	Invadre-Dooling.....	102.62



Here's a partial line up of the Austin M.R.C.A. From left to right; Joe Smith (V-Pres.), Olin Frost (a visitor), H. Porterfield, F. Lambeck, T. Turner, Bill Kanetzky, L. O. Watson (Sec-Treas.), W. Speir, Dr. J. D. Vance (Pres.), W. Gates, unknown, and Little George Stautz, the club mascot. Note the jet, fourth from the left.

Franny Wolf.....	Pacemaker-Dooling.....	100.22
Will Martine.....	Own-Own.....	98.68
Richard C. Ilg.....	Dooling-Dooling.....	98.47
Kurt Pasler.....	Dooling-Dooling.....	96.67
Bob Loose.....	Invader-McCoy.....	96.15
Richard Zimmerman.....	Dooling-Dooling.....	96.05
Bob Loose.....	Dooling-Dooling.....	95.74
Philip J. Eberhart.....	Own-Hornet.....	94.64
A. Remez.....	Pacemaker-Hornet.....	94.14
F. R. Kunze.....	Invader-McCoy.....	93.36
R. E. Beck.....	Invader-Hornet.....	92.59
Hugh M. Phillips.....	Invader-McCoy.....	91.93

JAX DECEMBER MEET

THE Jacksonville Miniature Racing Car Assn. wish to make a formal announcement of their first big meet to be held on their new cable track. THE AMRCA sanctioned meet will be held December 6th and 7th and will be open to all classes. Plans are under way to make this meet a big success. A new timer will be in operation, plenty of bleacher seats will be available, and the crowds will be kept informed by the newly installed P.A. system and a huge blackboard. All contestants will receive a free meal on the 7th and plenty of refreshments will be served throughout the event. The club itself has more than thirty cars rarin' to go and reservations are already in from "out of towners."

For more information, reservations, etc., contact the club secretary, M. B. Ogden Jr., 2825 Selma Street, Jacksonville 5.

NEW CABLE TRACK For AUSTIN

The Austin Miniature Race Car Association have hopes that their new cable track will be finished by the end of October. The members started out to build a small inexpensive track, but the Automobile Dealers Association of Austin got together and said they would build the best track in Texas and also the United States. (This is a big order, but Texans are noted for biggests and bests!) The Association will build the track and give it to the club.

At the present time, the club is using the facilities of the local Recreation Department. For the past three weeks they have been racing on 28 foot lines. These facilities are nothing to brag about, but when you're bitten by that race bug, you'll run on anything at any time.

The club members are firm boosters for the McCoy "49." At the present, they have five cars powered with the little "Atom Smasher" and are getting good results. As an example:

	MPH
1. Larry Watson....Melcraft-McCoy "49"....	72
2. Tommie Turner....Melcraft-McCoy "49"....	70
3. Weldon Spier....Original-McCoy "49"....	68

When you take into consideration the very short cable and the poor track facilities, the club believes they have some top speeds. Other speeds are:

	MPH
Barney Satterfield....Invader-McCoy "60"....	85
Dr. J. D. Vance....Dooling-McCoy "60"....	85
Tommy Patton....Invader-McCoy "60"....	82
Bill Kanetzky....Invader-McCoy "60"....	82
Phil Shaw....Pacemaker-Hornet....	80

Some of the boys are building up a radio control outfit for use on a model racer and are hoping for the best. The entire unit will weigh less than 2 oz. and will be used to cut off the ignition.

AMRCA SANCTIONED MEETS FOR 1947 SEASON

Nov. 11	Monroe, La. (2nd Annual Classic)
Nov. 15, 16	Phoenix, Ariz.
Nov. 20	Bakersfield, Calif.
Dec. 6, 7	Jacksonville, Fla.
Dec. 28	Bakersfield, Calif.

Above dates and locations are subject to change by request of Clubs concerned.

PROTO (Average of ¼ and ½ mile heats)

Joe Gabler.....	Pacemaker-Hornet.....	103.48
K. C. Smith.....	Pacemaker-Hornet.....	102.35
Gerald Wilson.....	Pacemaker-Hornet.....	101.57
Joe Olender.....	Pacemaker-Hornet.....	100.67
Earl E. Morris.....	Pacemaker-Hornet.....	100.48
Ray Stevens.....	Pacemaker-Hornet.....	100.16
Phil Smith.....	Pacemaker-Hornet.....	100.14
Riley DeMasie.....	Pacemaker-Hornet.....	98.92
Earl E. Morris.....	Pacemaker-Hornet.....	97.03
Jerry Wilson.....	Invader-McCoy.....	95.61
C. E. Kimmel.....	Invader-McCoy.....	95.19
Allison Briggs.....	Pacemaker-Hornet.....	94.65
Harold Porter.....	Pacemaker-Hornet.....	94.49
Charles Paynter.....	Pacemaker-Hornet.....	94.36
Dallas Lassen.....	Pacemaker-Hornet.....	94.09
Joe Foyst.....	Own-Hornet.....	92.08
Dewey Neff.....	Invader-Hornet.....	89.61

SPUR GEAR (Average of ¼ and ½ mile heats)

Phil Smith.....	McCoy-Hornet.....	105.94
Joe Poynter.....	McCoy-Hornet.....	101.18
Henry Hargrave.....	Mathews-Hornet.....	100.45
Clayton Rea.....	Mathews-Hornet.....	99.88
Harold Porter.....	Mathews-McCoy.....	97.16
E. E. Luttrell.....	McCoy-Hornet.....	91.78

RICHLAND, WASHINGTON ORGANIZES

A NEW race car club has recently been organized at Richland, Washington, known as the "Atomic City Miniature Racing Car Assn." Of course, after the club was organized, a place to run the cars was necessary. After scouting around, the club was fortunate enough to be given the use of the necessary land by the Local Civil Air Patrol.

They are building an 84' cable track at this location so that anyone who wishes to fly in to run his car need only walk about 200'.

Construction on the track is going full blast and is expected to be completed by the first of November. The track is surrounded by a crash wall 3' high made of old railroad ties, and above this is 4' of good substantial fencing for the protection of the spectators. The timer house is 8' x 10' and is surrounded on the back and the sides by the pits which are also fenced off. Provision has been made in the laying of the track for electric timing either from the center post or an electric eye in the track. The area will be lit for night running and will have facilities for those working on their cars for soldering irons, etc., in the pits. All labor and financing was done by club members; if they weren't concrete men or carpenters before, they sure are now!

The following men have been elected officers for the current year: C. L. Poe, Pres.; J. W. Corder, V-Pres.; R. V. "Scotty" Naught, Sec-Treas.

The official opening of their track was scheduled for October 26 and a large turnout was expected, especially the gangs from Walla Walla and Yakima. Any time you're in that vicinity drop over to the track; it's reported to be exceptionally fast.

GOOD NEWS FROM ANDERSON

AFTER months of working towards a new track, at last the Anderson, Indiana, club really has it. The City of Anderson told the club to buy the fence, and that they would furnish the track in one of the city parks. It was quite a job for the boys to dig up enough money for the fence alone, but they did it and now have a fine seventy foot cable track located in Westvale Park, 22nd and Raible Ave., in Anderson. The track has a 24-inch cement running strip with an asphalt infield to the center post. There is also a four-foot strip of asphalt between the running strip and the fence. The pit is 50' x 50', all asphalt, and the entire track is surrounded by a four-foot industrial fence. The boys are very proud of their track and believe it is one of the finest in their section of the state.

The new track was opened for racing on Labor Day weekend. The first day 31 protos and 9 spur gears were entered and the high speed of the day was made by Dr. Fleener of Paris, Illinois, 108.69 MPH with a Dooling powered Pacemaker. Phil Smith of New Castle took first in spur, 107.39 MPH, with a McCoy. On Labor Day, 23 cars were entered and some good speeds were turned in. Joe Gabler of Indianapolis won a new Pacemaker with a speed of 103.48 in the proto class. Phil Smith beat the field again in the Spur and also walked off with a new Pacemaker. All other prizes consisted of merchandise given by the various merchants of Anderson. Everyone had a good time and enjoyed the race and prizes. Results of the Labor Day Meet follow:

MEET THE DOCTOR

By STEVE SIMMONS

ONE of the most colorful figures in racing today is Hartford City's Bill Cronin.

Bill has been racing since the first days when miniature cars started to become a hobby, and has been a consistent contestant in many races. This year Bill has built up a fast Pacemaker proto, which is shown in the photo below, and has won some nice trophies with it. He now has in his possession the Northeastern Indiana perpetual trophy for protos

which he won first with 104.40 and later with a speed of 106.80.

"Doctor" Cronin (he's really not a "Doc" you know, he only uses a syringe for a fuel tank filler!) is the one man responsible for the Hartford City Club. At present, he is the club president and in the past has served as secretary. In his "spare" time he runs a model shop in one corner of his drug store and keeps all the boys supplied with the necessities of miniature racing.

By the way, when you see Mr. Cronin at the track with a flashy shirt, don't believe what everyone says about his wearing pajama tops, he really doesn't. (I think!)

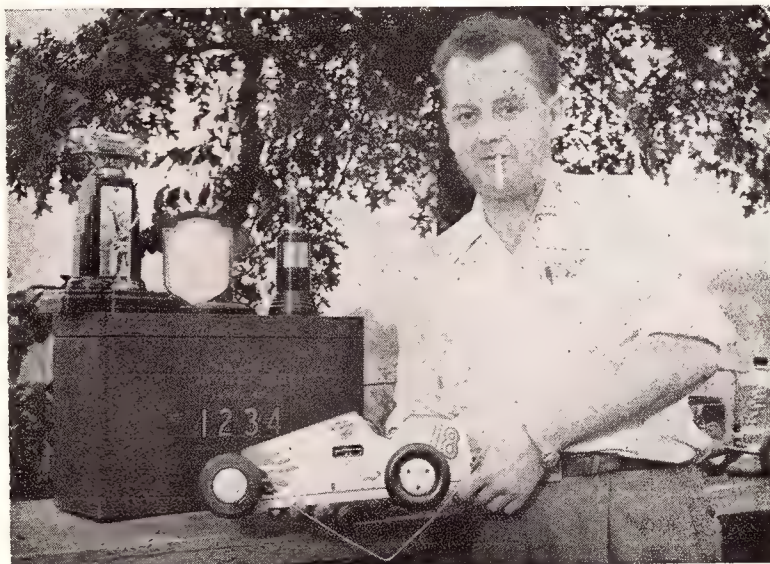


Photo by Phil Kingsley

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HORNET RAIL TRACK TOPS!

By FRANK PAWLIKOWSKI

THE IMRCA Rail Nationals were held at Hornet Hobby Park in Fresno, Calif. on September 20 and 21. The writer has just returned from the West after competing in the Nationals and firmly believes, without a doubt, that Mr. Snow's track is the finest, strongest, fastest rail track in the country today. I have raced on five rail tracks in the Midwest, but never have I seen as well a constructed track as the one in Fresno, Calif. Previous to my visit, I was a little doubtful as to the speeds reported, but one run on that track explained everything.

Six inches of concrete was poured for the foundation, all jacks are of welded steel construction, and the running surface is of oak flooring saturated with linseed oil. Brother, even a bulldozer would have a time pulling that combination apart.

The writer's car turned in 87 mph. the best she turned in on any track by seven miles, and that only qualified me for 23rd position. Yes, those California boys turn in some fast time and plenty of them too. Twenty-three cars surpassed my time. I cannot say enough for the beautiful track that now stands in Fresno. If any of you readers are contemplating on building a rail track, be sure to get Mr. Snow's prints for the best and fastest track in the country.

Milwaukee is now building a twelfth mile rail track patterned after Fresno, and by the time this appears in print, the Midwest boys will be trying very hard to knock some of those high speeds that a twelfth mile course offers.

At the Nationals, W. E. Schackelford of Oakland, Calif. with a Curly Car turned in 97.29 mph, a new world's record for rail, but as yet unconfirmed. We'll see 100 mph on rail in '48 for sure. Chicago's #3 turned in a repeat performance as of the AMRCA Nationals held in Chicago and became the high point winner of the meet. #3 took all first and one second place.

Results of the Rail Nationals follow:

	Points
Frank Pawlikowski..Own-Hornet.....	189.53
Dick McCoy.....McCoy-McCoy.....	173.74
Curly Glover.....Curly-Dooling.....	173.44
Elmer Wheeler.....Conventional-McCoy.....	165.37

Lloyd Baker.....Dooling-Hornet.....	159.44
McCoy Team.....McCoy-McCoy.....	154.87
Herb Suddeth.....Curly-Dooling.....	153.90
Herb Suddeth.....Pacemaker-Hornet.....	148.78
Art Brown.....Richter-Hornet.....	148.44
J. Sodem.....Own-McCoy.....	139.50
R. E. Hulse.....Dooling-Hornet.....	135.93
Jim Papina.....Papina-Hornet.....	134.64
Bert Bonney.....Curly-McCoy.....	130.63
Roy Imhoff.....Pacemaker-Hornet.....	127.58
Mike Newell.....Dooling-Hornet.....	127.19
Dick Terzian.....Dooling-Hornet.....	126.53
W. Woodward.....Dooling-Hornet.....	123.79
Gilmore & White.....McCoy-McCoy.....	123.14
E. Filippetti.....Papina-Hornet.....	122.20
R. Hook.....Invader-Dooling.....	118.51
W. E. Schackelford.....Curly-Dooling.....	117.29
Dr. C. D. Newel.....Pacemaker-Hornet.....	113.54
Don Shawver.....Railton-McCoy.....	112.87
C. Glover.....Curly-McCoy.....	111.83
Leroy McPherson.....Papina-Dooling.....	108.00
Al Papina.....Papina-Hornet.....	107.04
Andy Anderson.....Curly-Hornet.....	106.53
Charlie Lamb.....Lamb & McCoy-McCoy.....	106.23
George Cooley.....Curly-McCoy.....	106.23
Cliff Fox.....Custom-McCoy.....	105.89
Tommy McAtee.....Invader-McCoy.....	104.70
H. G. Fox.....Supersonic-Hornet.....	104.20
E. A. Turnross.....Papina-Hornet.....	102.26
George Hook.....Curly-Hornet.....	101.82
Stewart Street.....Invader-McCoy.....	101.10
Seldon Graham.....Curly-Hornet.....	99.71
Eddie Allsman.....Papina-Hornet.....	97.95
Art Silva.....Supersonic-McCoy.....	97.62
Clyde Wilson.....Curly-Dooling.....	96.30
Albert Gunn.....Papina-Hornet.....	93.75
Jim Papina.....Papina-McCoy.....	93.44
Dale Springer.....Dooling-Hornet.....	92.35
Dale Bloom.....Dooling-Hornet.....	88.59
E. J. Nartinielli.....Papina-Hornet.....	87.79
Keith Springer.....Dooling-Hornet.....	71.84
Bob Cunningham.....Dooling-Hornet.....	57.90

ORLEANS TRACK ESCAPES HURRICANE

Everyone will agree that 100 MPH consistently with spurts of 110 MPH is a pretty good speed at any time. Well, that is just what the September Hurricane clocked when it came roaring in from the Gulf to sweep through New Orleans and the adjacent area. The wind was terrific for a few hours, but when things finally quieted down, the old Crescent City had escaped without too much serious damage.

During the height of the blow, the water from Lake Pontchartrain came over the sea-wall and completely covered the concrete race track located at the Amusement Park. Fortunately, the track was protected from the full force of the waves by other structures, and an examination made the next day showed the track had suffered no apparent damage. A week after the storm had passed, the local boys were out at the track once more to give their cars a workout. The track had been thoroughly washed and speeds were recorded that would compete favorably with the Hurricane.

L. A. STARTS TO ROLL

THE new track at Western & Rosecrans in Los Angeles has been open for two months and the crowds, both spectators and contestants, are growing weekly. Sixty-seven cars were entered in the race held October 5th, half proto and half spur. A short business meeting was held during the afternoon with a slate of candidates for office being nominated. Elections were to be held on Sunday, October 19.

Johnny Eggleston running his Dooling powered "Teardrop" continues to domi-

The Model Craftsman

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10 DAY DELIVERY
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nate the Spur Gear Class and Louis Paradiso with his Dooling job is showing the way in the Proto. New members are showing up each week, and with the speeds going up, some keen competition is promised anyone who wishes to come out and run. Ray Stevens, formerly of Indianapolis, is now a Southern California resident and lost no time joining the club. He has a Pacemaker powered with a Dooling Engine which is really burning up the track.

The completion of the track facilities is going rapidly ahead, and by the next issue of M. C., the club expects to be in a position to announce some definite dates for sanctioned races. In the meantime, everyone is invited to try out their new track.

PRESENT SPEED RECORDS

THIS is your standing box score representing TAMRCA speed records as of October 15, 1947. These are the present existing records as reported to this office, showing highest speeds established on both cable and rail tracks, type of car and engine used, together with location and date of established record:

1/16 MILE CABLE TRACK

SPUR (1/4 Mile): Dick McCoy, San Francisco, July 7, 1946—116.73 MPH (McCoy Car, McCoy Engine)
PROTO (1/4 Mile): Howard Lee, San Francisco, July 7, 1946—108.95 MPH (Own Design Car, Hornet Engine)
STREAMLINE (1/4 Mile): Jim Gilmore, San Francisco, July 7, 1946—103.32 MPH (Special, Hornet Engine)

1/24th MILE CABLE TRACK

SPUR (1/4 Mile): Warren Borden, Waukegan, July 7, 1947—121.64 MPH (V-Car-Hornet Engine)
SPUR (1/2 Mile): Warren Borden, Waukegan, July 6, 1947—120.89 MPH (V-Car-Hornet Engine)
SPUR (1 Mile): George Coffield, Rock Island, Ill., Aug. 16, 1947—118.65 MPH (Coffield-Hornet)
PROTO (1/4 Mile): Frank Robertson, Houston, Aug. 17, 1947—116.12 MPH (Own-Dooling)
PROTO (1/2 Mile): Art Poore, Inglewood, Cal., Aug. 15, 1947—112.92 MPH (Own-Dooling)
PROTO (1 Mile): Art Poore, Inglewood, Cal., Aug. 17, 1947—112.25 MPH (Own-Dooling)
STREAMLINER (1/4 Mile): Jim Gilmore, Detroit, Aug. 3, 1946—104.98 MPH (Special, Hornet Engine)
STREAMLINER (1/2 Mile): Jim Gilmore, Detroit, Aug. 1, 1946—102.50 MPH (Special, Hornet Engine)
STREAMLINER (1 Mile): Jim Gilmore, Detroit, Aug. 2, 1946—100.44 MPH (Special, Hornet Engine)

1/16th MILE RAIL TRACK

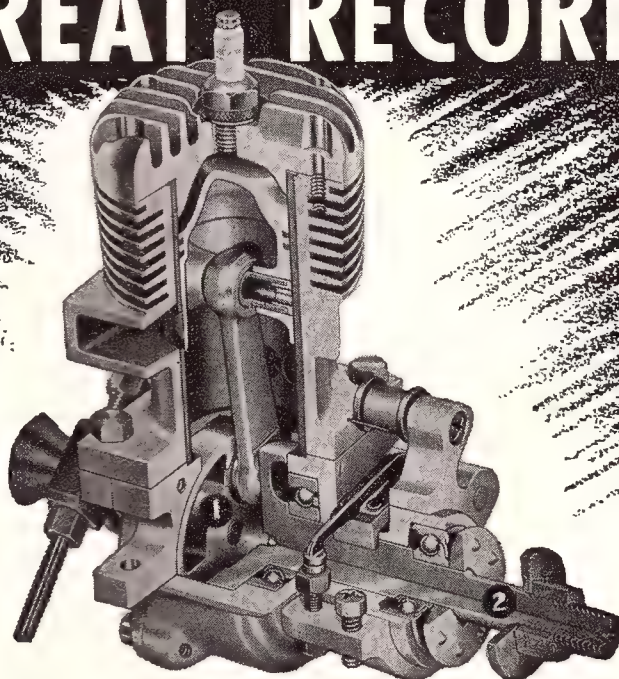
STREAMLINER: W. Weller, Chicago, Aug. 25, 1946—79.30 MPH (Hornet Engine Used)
PROTO: Elmer Wheeler, Chicago, Aug. 9, 1947—81.30 MPH (McCoy Special—McCoy Engine)

1/12th MILE RACE TRACK

PROTO (1/4 Mile): Dick McCoy, Fresno, Cal., July 6, 1947—95.13 MPH (Own Car, McCoy Engine)

Harry Raker of Springfield, L. I., Secretary of the New York Model Power Boat Club, died on Sept. 22. The power boat men have lost a good friend and a willing worker. Harry was always ready to help, whether it was to give a new man a start or to organize a race. He was known and liked by all the members of the Eastern Clubs and his passing is mourned by all.

Good Reasons For GREAT RECORDS



A worthy companion to the greatest engine ever manufactured is the Hornet Race Car and U-Control Magneto. Will fit all Hornet engines and other competitive makes of the same design. Now available at your local hobby dealer.

Still at pre-war prices, complete except for coil condenser and spark plug.

\$35.00
MODEL "60-A"

for guide line or free-flying planes. Model "60-B" for boats. Model "60-RC" for race cars.

These are a few of many HORNET records

● Spur Gear Record, Waukegan, Ill., Sept. 1, John Crossan, V car Hornet powered, 118.27; Dale Martel, Proto Hornet powered, 113.21; Loose Memorial, Fred Luning, Spur Gear Hornet powered, 118.73; W. T. Thomas, Jr., New Spur Gear Record, Own Car, Hornet powered, at Eustis, Florida, 120.32.

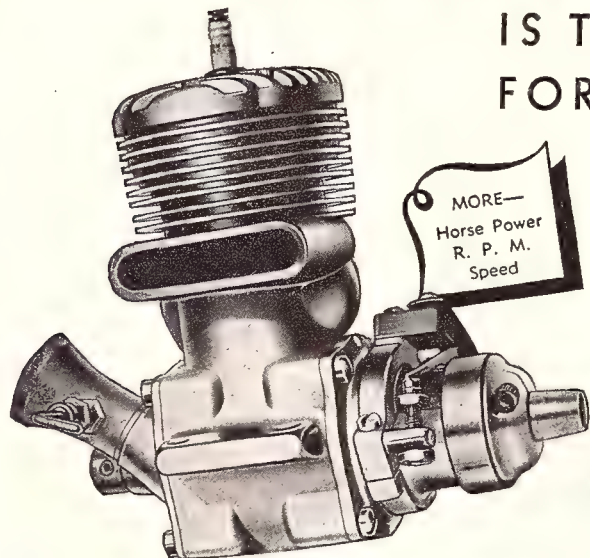
● Speed Boats: Joe May, Detroit, Mich., July 4-6, 1946, new world record in Class D and E, speed 65.53 m.p.h., winning Gar Wood trophy and Model Craftsman plaque.

If your local hobby dealer does not have HORNET motors in stock, we will ship direct from factory within 24 hours of receipt of order.



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"THE DOPE SHEET"

Congratulations to Allan and Kitchens (and their DOOLING power plants) for coming away with first honors in the Minneapolis Nationals — speed, 133.33 MPH! Ditto for firsts in meets at Tucson, Rockford, Detroit International and Joliet, Illinois. That's breaking out in a rash of wins. Swell flying fellows, and thanks for the telegram.

The following are figures on the recent National Cable Races, Indianapolis. Track stuff (Proto) and DOOLING "61" engines, naturally. Quarter-mile, first, F. A. Robertson—116.13 (new official record); half-mile, first, Art Poore—112.94 (new official record); one mile, Art Poore—112.25 (new official record). Results on points: 1st, F. A. Robertson of Dallas, Texas; 2nd, Art Poore of Los Angeles, California; 3rd, Norb. Jannsen of Los Angeles. Keep 'em revving.

—The DOOLING REPORTER

"JES RAMBLIN"

By SENATOR CLAGHORN

Alias—Fran Brennan

JUST got through giving Jim Thompson (our new Managing Editor for M. C.) the going over for slighting we boys on the race car news. There was more darn news on Railroadng, 35 pages of it, and Race Cars had only 8. Lewis Austin, Editor on Railroad News is doing a fine job. Maybe with a little persuasion we could get him to pinch hit for us. How about it, Lewis?

OK, boys, shoot the news and pictures in, maybe next month we'll get 38 pages! We must remember that MODEL CRAFTSMAN magazine is our official organ and if we want more car news, it is up to us to give them the stories.

Wish I had time to ramble out to the West Coast to see Wilmer White, President of the I.M.R.C.A. He had a serious accident while working on one of his cars. It seems the pliers slipped and went through his glasses and eye and Wilmer wound up with a fractured skull just above the eye ball. What makes matters worse, is that the mishap was in his good eye, his other one had been slightly impaired. I know he would appreciate a card or letter from you, his address is 902 Elma, Ontario, Calif.

With these cars getting faster and faster, we are having more injuries. We should take extra precautions at all times in order to prevent accidents. From here on in we should consider the safety element before everything else, in the past we have been concentrating on speed with precautionary measures secondary. I for one would favor a blanket insurance coverage on all A.M.R.C.A. and I.M.R.C.A. members that would defray hospital and other expenses in case some one of us gets hurt. It might also be wise to get insurance that will cover injuries incurred on spectators. Some day a race car is going to break loose and really injure a spectator, without the proper insurance you'll have a good lawsuit on your hands.

We must face facts, some day some one of us is going to get hurt. Why not pay 25c or 50c a year more for membership in our organizations and have a large insurance company furnish the entire Association protection. It is additional money spent, but if you were one that had an accident, and your doctor bills were paid, you'd say it was money well spent, a worthwhile investment.

Have real good news for you! We are getting a new Hobby Center in our City Park in Monroe! Want your city to build you a new track? I'll tell you how we did it here in the next month's issue.

PATCHOGUE IN THE RUNNING

THE Suffolk County Auto Racing Society of Patchogue, Long Island, is issuing a call to all fans in its area that races are held every Sunday afternoon at the Cruise Inn on Robinson Blvd., East Patchogue. If anyone is interested,

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COMING SOON: The NEW DOOLING MOTORS. Orders being accepted now.

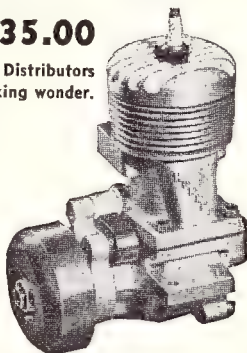
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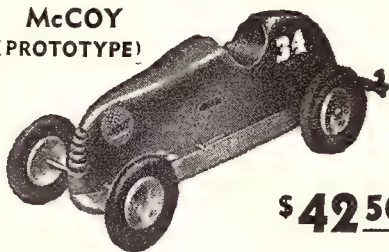
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\$42.50

Newest in the line of McCOY Champions. Cast Magnesium Body. New type rear end. Complete with gas tank, switch and bridle.

The McCOY Racing Engine \$35.00
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After two months of racing on their new $\frac{1}{24}$ mile cable track the fellows are really starting to settle down and are looking for higher speeds. Although they are not breaking any records, the speeds are gradually climbing. The highest mark to date on their track was made by a Dooling Car clocked at 103 MPH. The car was still picking up speed when the cable broke and finally ended up scattered along the crash fence.

At the present time, a lighting system is being erected so that races can be held one night a week. To add to the competition, a point system has been started among the club members. A trophy will be awarded in each class at the end of the racing season.

The boys are still a little green at the hobby, but a little time spent in the workshop this winter will iron out many of their problems. Following are the results of a race held on the 21st:

PROTO

Flip Hallock.....	Dooling-McCoy.....	89.3
John Shand.....	Dooling-McCoy.....	84.7
Eddie Miller.....	Dooling-Hornet.....	82.7
Frank Horsch.....	McCoy-McCoy.....	82.3
Bob Fruer.....	McCoy-McCoy.....	80.6
Mac Shand.....	McCoy-McCoy.....	80.0
Harry Paxson.....	McCoy-McCoy.....	no time

SPUR GEAR

Flip Hallock.....	Donaldson-McCoy.....	89.9
Lee Miller.....	McCoy-McCoy.....	89.9
Henry Watjen.....	Donaldson-McCoy.....	no time

NEWS FROM NEW ORLEANS

By BILL WUNDERLICH

Quite a few years ago, just before the war, New Orleans was introduced to the fast growing sport of Miniature Auto Racing. A track was built for the local boys at the Pontchartrain Amusement Beach, and the management of the Beach expected that the new hobby would serve as a drawing card for the Amusement Park. Well, it did just that until the war came along and all racing was suspended to let the fellows devote their entire attention to the war effort. Last year the track was reopened and proved so popular that it actually drew people away from paid amusements, the management decided it was hurting their business. Consequently, it was necessary to reach a compromise agreement. As a result, the weekend races were confined to the hours of 10 A.M. to 2 P.M., all racing to stop when the concessions at the beach were opened for business. This has handicapped the local boys in staging any really big meets, and the one recently proposed for Labor Day was postponed at the last minute.

The boys are now looking around to see if there is not another location where they could build their track and permit New Orleans to come into its own as a Miniature Auto Race center for the deep South. It is hoped that plans for a new track will be completed during the winter and that when the next racing season rolls around, the Crescent City will have not only the track at the Beach, to be used on a restricted basis, but a new installation at which major meets can be staged without interference from other activities.

NEW!

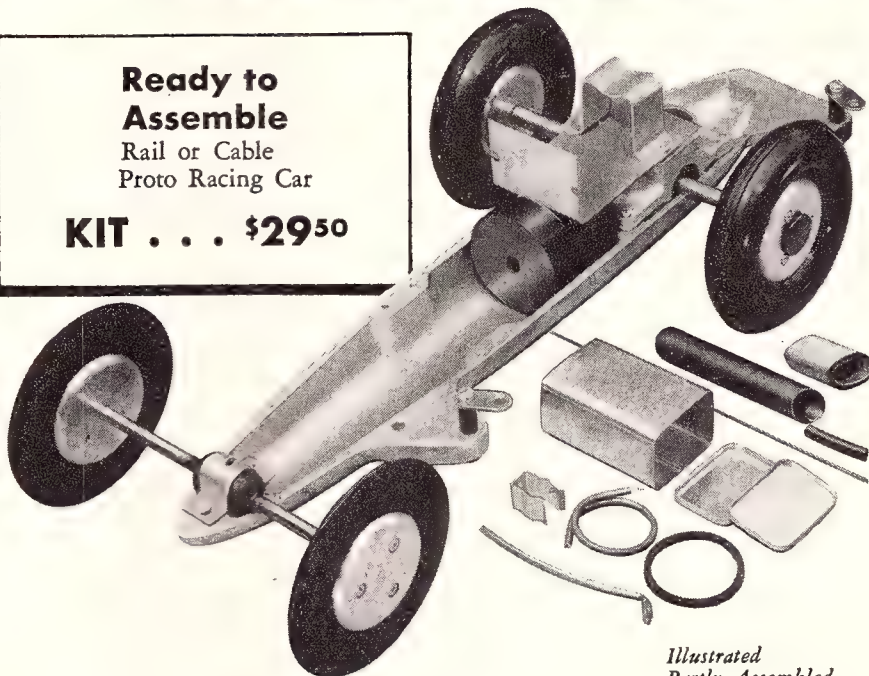
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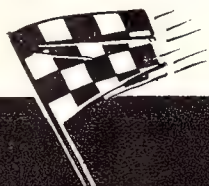
Now you can build your own record-maker . . . for rail or cable . . . at a price you've been waiting for. Takes Red Head "49," "60" and most other engines. Complete kit except top and engine, ready to assemble. Shape your own top from balsa.

Rail attachments sold separately \$10.

KIT INCLUDES:

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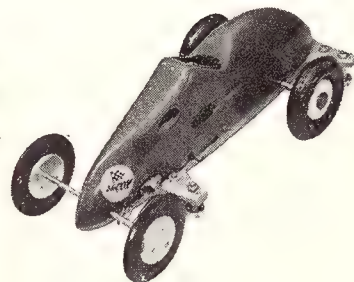
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Dick McCoy's original went 95 mph to set $\frac{1}{12}$ mile rail track record at Fresno, Calif., July 4, 1947.

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PINT SIZE RACE CAR

(Continued from page 30)

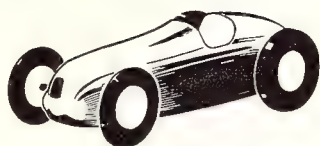
Drilling and reaming the axle hole in the drill press can be as accurately accomplished if a center point is inserted in the drill press table directly under the drill. The right hand axle hole can then be rested on this center while the left hand hole is drilled and reamed. Any burrs caused from drilling and reaming should be cleaned up with a fine swiss file and the axle bearing end faced smooth to avoid friction on the flywheel.

With this bearing hole machined to a perfect fit for the flywheel bushing, the rear wheel and flywheel should be mounted to the motor by screwing the extension shaft into the motor crankshaft. Slip on the various parts and fasten them firmly in place with the lockwasher and nut. The motor mount can now be screw fastened to the engine base and the whole assembly placed in position in the lower half of the car body. Move the motor until the flywheel just clears the outer face of the axle bearing and mark the position of the motor mount on the pan bottom. Remove the motor and clamp the motor mount back in position for accurately locating the screw holes in the pan. These holes can be drilled by using the holes in the base of the mount as a drill jig. Drill the holes in the pan while the mount is clamped in place. The holes in the pan can then be opened out with a larger size drill to clear the screws which will hold the motor mount firmly in place.

The motor mount, flywheel and the shaft extension are available in kit form, but for those who own or have access to a metal lathe it will be a simple matter to make up these parts in the shop.

The motor mount, shown in the detail drawing, fig. 1, is made up from flat brass plate $\frac{1}{2}$ " thick. This can be cut out with a hacksaw and filed to shape by hand, the screw holes accurately laid out, drilled and tapped to the dimensions given in the drawings.

The shaft extension, fig. 2, can be made up by threading a $\frac{3}{16}$ " steel rod or it can be cut from a $\frac{3}{16}$ -32 cap screw of proper length. The flywheel, fig. 3, is turned from a short length of $1\frac{1}{2}$ " brass rod to the shape and size shown in the drawing. It will be best to first turn the flywheel and the integral bushing to size, then drill and ream the shaft hole all at the same chucking to insure the wheel running dead true. The work can then be reversed in the chuck and



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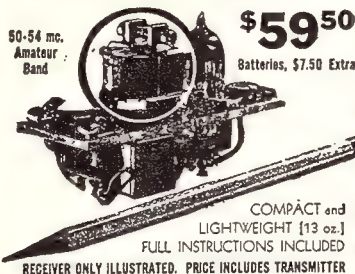
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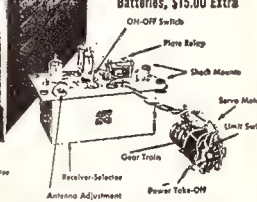
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the face turned smooth and recessed as indicated in the drawing.

The right rear wheel will utilize part of the original cars axle. This is cut off as indicated in the drawing and cross-drilled on the end with a #50 drill to receive a pin which will hold the shortened axle in position. When the hole in the axle has been drilled, clamp it in place in the lower half of the car body and continue the hole through the axle into the frame of the car. With the pin driven home and the two halves of the car body bolted together, the axle will be held firmly in place and the wheel allowed to spin freely.

The gas tank that comes as an integral part of the motor will have to be removed and a new one of larger size substituted. The new tank can be made up or purchased separately. The space available under the hood of the car will take a standard ready made tank approximately $1\frac{1}{4}$ " in diameter by $2\frac{1}{2}$ " long. The spring clip shown in the drawings for holding the tank in position can be made up from thin sheet steel or spring brass. Two screws hold it in place, screw holes being drilled through the base of the clip and through the bottom of the car. The tank can be connected to the carburetor with the short piece of tube which comes with the motor. The filler cap should be located so it is easily accessible without taking the car apart.

It will be well, for convenience in starting the engine, to solder a long extension wire onto the needle valve of the carburetor. If the engine comes with the needle valve assembled on the wrong side, the position can be reversed by unscrewing the needle and locknut and removing the brass valve and reassembling from the opposite side.

While the motor is decidedly a little fellow, it is still too large to fit in back of the drivers seat which is cast solid as part of the upper half of the car body. This, of course, would have to be removed for ventilation and to allow a draft of air to keep the motor cool. As the metal of the car body is die-cast, the opening can be cut out with a file or a small hand grinder may be used.

With the machine work complete and the various parts assembled, the motor is ready for a tryout. As an engine of this type operates on an entirely different principal from the conventional gas engine, and has several peculiarities all its own, a word or two about getting it running may be of interest to those who are not acquainted with the compression-ignition type engine.

These engines operate the reverse of the gas types. If the engine appears to be starving for fuel (stopping with fast sharp bursts) the needle valve is open too far. If it appears to be sluggish and rich (dying out slowly), the needle valve is not open enough. To secure the smoothest operation, close the needle valve slowly until the engine appears to be knocking and vibrating, then open the needle valve at least two or three turns until the engine is operating very smoothly. When racing, repeat the above procedure, but open the needle valve an additional turn to eliminate any possibility of the engine leaning out.

The finished car will not break any of the existing speed records but is an excellent project as a starter. The model described here has been clocked in excess of 40 MPH when run on a tennis court.

PROVIDENCE EXHIBITION RACE

THE Roger Williams Racing Car Assn. held an exhibition of their cars at the annual Labor Day exercises sponsored by the city of Providence, R. I. The exhibition was held at the club's cable track which was built by the city to foster miniature car racing.

The club was formed last Spring with a nucleus of 6 members. At the present time the club boasts 18 members, many racing both spur and proto cars. The club has a group liability insurance policy covering every member on personal liability to spectators and other operators. This is a long step forward in sound operation of a club and makes the hobby more attractive to potential members. All members belong to the AMRCA. Officers are: A. A. Multer, Pres.; Frank Lemrox, Jr., Treas.; and C. A. Walsh, Jr., Sec.

The club extends an invitation to all visiting race car operators to try out the track when they are in town.

R. R. CLUB NEWS

(Continued from page 4)

gone ahead to such a point that operation will once again be possible very soon. They now have double the room for a layout and also a clubroom for business meetings.

At their last business meeting, Gordon Hopkins, President, and Vinton Spohn, Secretary-Treasurer, were reelected (railroaded) into office for another year. Following the election, plans were made for an Anniversary party to be held at the home of Russell Snell, T. & M. V. Division Engineer.

BRONX, N. Y. The Bronx Model R. R. Club which will operate the "Knickerbocker Line" is now busily engaged in rebuilding its old layout in its new headquarters at 4127 White Plains Road, Bronx 66. Anyone wishing to join this group should contact the Secretary, D. K. Soons, 456 Kneeland Ave., Yonkers, N. Y.

DAYTON, OHIO. A new HO layout was started approximately a year ago by the Dayton Model R. R. Club, and work is progressing rapidly. The new layout is $7' \times 60'$ and replaces a former layout which was $7' \times 14'$. All of the switches are electrified and at the present, they are constructing two additional towers to permit better club operation. Work nights are each Tuesday and full scale operations are carried out on Sunday afternoons. The club is located in the Dayton Art Institute Bldg., 405 West Riverview Ave.

They recently filed necessary papers for incorporating the club and at their last annual election the following officers were selected: Art Trubee, Pres.; Lee Phillips,

(Continued on page 45)

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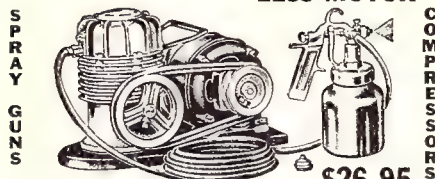
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MODEL TRACTION LAYOUT

(Continued from page 17)

outside of the streets giving a true canyon effect and adding to realism.

The views from the entrance door should prove quite attractive to visitors to the layout. Straight ahead will be the open vista leading to the large barn which, with its outside tracks, should hold ten big cars. At an angle will be seen two busy built up streets with heavy inter-urban cars rumbling along them as well as small city cars and an occasional freight train. At a distance will be the scenic wonder of Window Valley with its long trestle carrying cars across from Conn Jct. to Twistle Gwen.

When all this is done, thought might be given to the double tracking of the line along Broadway, Third St. and Post Road and doing away with passing tracks at Conn Jct. and Window Valley. It will probably be inadvisable to ever double track the Main St. line since then Fourth St. would have to be doubled, too, and the double wye at the intersection, while quite feasible, would take up too much room, making the city blocks much too small.

Minimum radius has been kept to seven and a half inches for HO or OO gauge, while maximum grade is about one in twenty-four.

B & M ATLANTIC

(Continued from page 7)

is completed and fitted, solder it in place. All that remains now to complete the tender body is to cut out and bend the piece that forms the support for the tender deck. Solder it in place and you are ready to add the detail.

The grabirons in the corners of the tender body and the marker light brackets are all bent out of #60 wire. Drill #60 holes in the tender body for fastening on these details. They are also held more securely by soldering the ends of the wire where they protrude inside the tender body.

The beading around the top edges of the tender body is made by soldering 1/32" copper wire along the edges of the tender body. The reason for using copper wire is that it is soft and pliable enough to make it easy to follow the curves of the tender body. Clean off the excess solder so that the edges of the tender body are smooth.

The manhole cover is filed to shape out of brass. It is not necessary to hinge the top of the cover as was done with the cover on the tender of the Boston & Maine Mogul. Just file the top to represent the hinges as shown on the drawing. Drill and tap 2-56 holes in the underside of the manhole cover so that it can be fastened to the top of the tender tank with 2-56 screws.

Five low handrail posts are required for mounting the railing around the top of the tank. These posts can be purchased in a hobby store. Drill holes in the top of the tank and solder the posts in place in these holes. Be sure that you have the railing bent to shape and in place in the posts before you solder them in place. The posts can be soldered in place from inside the tender body.

The ladder on my model was cut out of 1/32" thick sheet brass. The openings were chiseled out. This is easily done, but if you prefer you can purchase a ladder in a hobby store. Solder it in place on the back end of the tender body. All that remains to complete the tender body is to bend two small pieces of 1/32" sheet brass at right angles and solder them in place on the tender deck supports to represent the steps.

Clamp the underframe to the tender body and spot the mounting holes in the tender body through the six 3/32" holes that are already drilled in the underframe. Then drill and tap these holes 2-56 and the tender body can be mounted on the underframe with 2-56 screws.

If you wish you can cement the dummy coal right in the coal compartment. However, I left the coal compartment empty on my model so that it can be loaded at the coaling station on my pike.

A drawbar is made out of 1/4" by 1/16" brass with a 3/32" hole drilled in each end. Make the drawbar long enough so that the loco and tender can negotiate the curves on your pike easily. This completes the model and it is ready for painting. I used semi-gloss black paint on the entire model with the exception of the smokebox and stack. These parts were painted with dull black paint. The lettering was done by hand with white drawing ink and then painted over with dull varnish to prevent rubbing the lettering off when the model is handled.

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RAMSEY, NEW JERSEY

R. R. CLUB NEWS

(Continued from page 41)

Vice-Pres.; Jack Harrington, Sec.; and Tom Eckley, Treas. The club roster now includes 22 members, all active, and several new applications are on file.

WESTFIELD, N. J. Plans were recently completed for extension of the layout of the Central Jersey Model RR Assoc. to include several new running tracks in a new area and another loop at a lower level than the present main line. Provision has been made for several new passenger stations and small yards, as well as room for new industrial sidings and new factory buildings. The additional trackage will make many more operational movements possible than formerly. Most of this new construction will be in use by the next Show staged by the club early next spring.

The club meets every Monday evening at 135 Elm St. and anyone interested is welcome to visit the layout.

Trolley interest is shown by a line that runs practically the length of the main trackage, using the main line for several short stretches. At present a new loop and storage yard are being constructed at one end.

CAMDEN, N. J. The Delaware, Susquehanna and Western operated by the West Jersey R. R. Club is now running at full capacity. Motive power, supplemented by two new engines, heavy coal drags, red ball freights and first class passenger trains continue to pack them in every Friday night at the club headquarters located at 639 Clinton Street, Camden.

LANCASTER, PA. On October 1, the Lancaster Model R. R. Club held their annual business meeting at their headquarters at 314 N. Christian Street. Plans were made for their Fourth Annual Show which will be held November 28-30 and December 5-7. The evening shows will be from 7 to 10 P. M. with matinees Saturdays and Sundays from 2 till 5 P. M. The following officers were also elected at this meeting: J. H. Herr, Pres.; H. W. Wieland, Vice-Pres.; W. M. Echternach, Jr., Sec.-Treas.; R. M. Miller, Supv. for O gauge; and R. H. Crawford for HO.

New control panels are being installed in both the O and HO divisions which will mean many extra hours of work for the electrical department.

PELHAM MANOR, N. Y. The Westchester Model R. R. Club is holding its Annual Show on the weekends of November 7-9 and 14-16. The show will be open from 7 to 10 P. M. on Fridays and from 2 to 10 P. M. on Saturdays and Sundays. The admission charge is 40¢, 20¢ for children.

Considerable work has been done in the Club this past summer by the members. A 17 ft. brick wall was knocked out and a steel supporting beam erected which enables visitors to obtain a comprehensive view of the entire layout as well as making space for additional terminal facilities. The club has always attempted to offer something new and timely at the show;

this year's attraction will be a complete working model of the Freedom Train.

The Club's quarters are in the old Pelham Manor Railroad Station, located on the New Haven Main Line, a short distance from Boston Post Road on Pelhamdale Ave.

INGLEWOOD, CALIF. At a recent meeting, the Inglewood Central R. R. Club celebrated the completion of their main line. At the ceremony, a golden spike manufactured by Dr. Edward Wheeler, a new member, will be driven. Future plans for the club include immediate work on scenery and completion of all side tracks and switches.

At this same meeting new officers for the club were elected as follows: Clark Kugler, Pres.; Doug McCave, Vice-Pres.; and Ed Seits, Sec.-Treas.

INTERIOR DECORATING

THE various models shown in the accompanying photo are the work of Clyde A. Booker, of Lexington, Mass. They were built over a considerable period of time, partly to see just how far the detail could be carried and because it was a good project when funds were low.

The desk, filing cabinet and stove were the original pieces intended for the office of a freight house. The desk and filing cabinet have all exposed parts made of mahogany while the drawer bottoms, sides and backs are of pine. (These do not show too well in photo.) The stove is made of pine, the round part turned, the base and doors glued on later. The dimensions and designs were taken from a Sears, Roebuck catalog, and all pieces are to exact 1/4 inch scale.



The table was easily made from white oak. The water cooler is made from a short piece of tubing for the body, wire legs and a tinplate platform. The "water bottle" is a piece of parfin which is pinch-hitting until a clear piece of plastic rod is obtained.

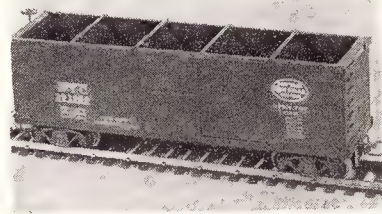
The coal scuttle was formed of tinplate, a guess was made as to what the final shape should be, and was trimmed later where necessary. The handle is a bit of wire bent around a drill of the appropriate size, while the two objects sticking out are a poker and shovel.

On top of the desk is a telephone made by filing a black plastic rod in a drill press. The rod was obtained from a radio supply house. The base, receiver and transmitter were made separately and then glued together. On top of the table is supposedly a typewriter with cover on, although the "fake" was fairly obvious.

To give an idea of the size of the various pieces, under the table is a commercial AB reservoir. This work in 1/4 inch scale is an ideal example of what can be accomplished with patience.

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HO PRR X-23 Commercial Box Car 1.25
HO PRR X-23 Motive Power Car 1.25
HO Free Lance Old Time Gondola 1.00
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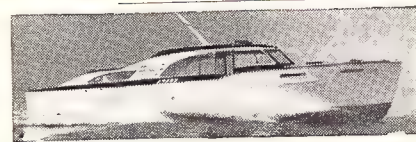
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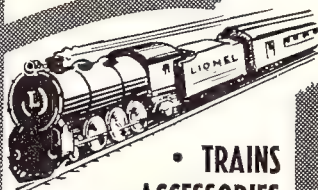


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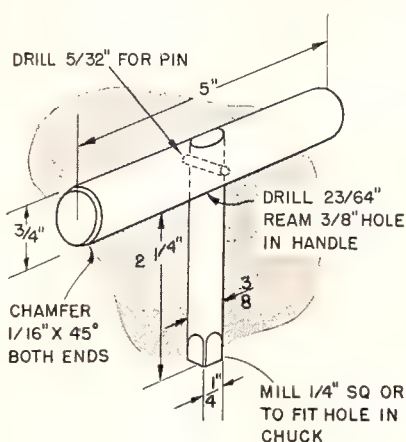
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the workshop if you own a small
bench lathe. When in use, speedier work
is possible on the three-jaw universal
chuck. The oversize "handle" or "tee"



on this wrench gives it added inertia, so
that in opening or closing the chuck the
wrench has a tendency to keep turning.
Thus, when the jaws of the chuck close
on the work, it is gripped tighter.

All material can be cold rolled steel or
machine steel. For greater durability, the
body can be made of drill rod, heat treated
for strength and then tempered. The
squared tip should otherwise be case-
hardened. If preferred, body can be
welded into the handle instead of using the
pin as illustrated. . . . E. Diskavich.

NEW SALES OFFICE

The Pittman Electrical Developments
Co. announce the establishment of a Sales
Division at 123 W. Main St., Kutztown,
Pa. All sales of model railroad supplies
except to Mfgs. will be handled through
this department. This is intended to
facilitate stocking and shipping of all
items in line with the company's policy
to give the best possible service. All cor-
respondence should be directed to the
above address.

YOUR AUTHORS WORKSHOP

ONE of the most complete model-
makers workshops we have seen is
that of Mr. George Taylor in Pomton
Lakes, N. J. This shop occupies all of the
cellar of his home and is so complete in
equipment that a 3 1/2" gauge locomotive
can be built from the actual drawings of
the design, right through pattern making,
castings, electric welding, brazing and the
finished machine work.

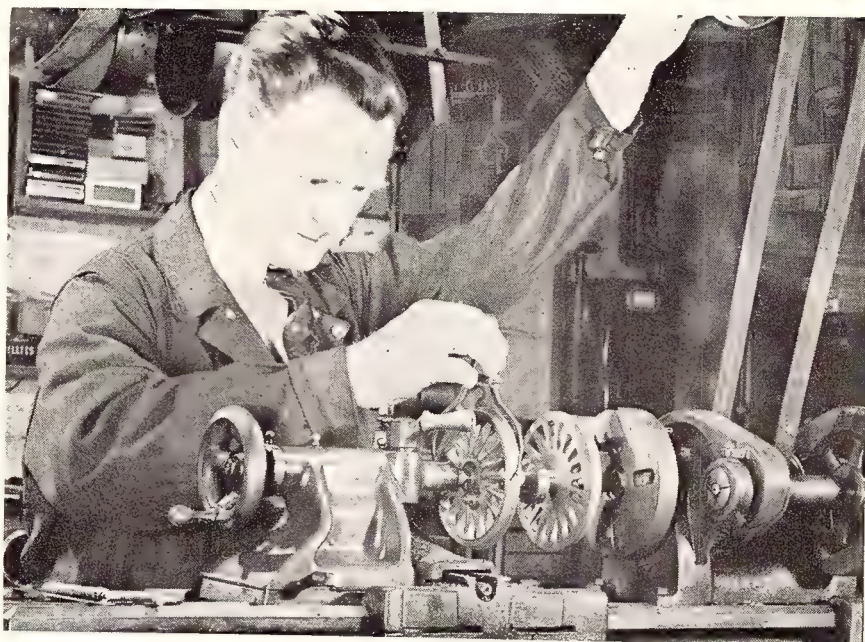
In one section of the shop is the foundry
in which bronze and aluminum castings
can be made. Also in this section is a
very practical brazing furnace. The foundry
and furnace have been described in
previous issues of M. C. In another

corner is the pattern shop with an array
of wood working machines and tools.

The greatest part of this cellar work-
shop, however, is taken up by the very
complete little machine shop which con-
sists of two lathes, two drill presses (one
a two spindle job), a Garvin hand milling
machine, electric welder and a complete
array of hand tools.

Mr. Taylor's greatest interest is in
building and operating live steam loco-
motives and as a sideline, stationary steam
and gasoline engines.

"George" originally hailed from Glas-
gow, Scotland, where he served an ap-
prenticeship with the firm of James
Howden & Co. from 1915 to 1921. As
many of his fellow apprentices were
ardent model enthusiasts, he is wondering
if any of them are among the readers of
Model Craftsman.



George Taylor, in his cellar workshop, calibrating the drivers for "Little
Lulu", an O-4-0 switcher.

The Model Craftsman

DRILLING HOLES IN GLASS

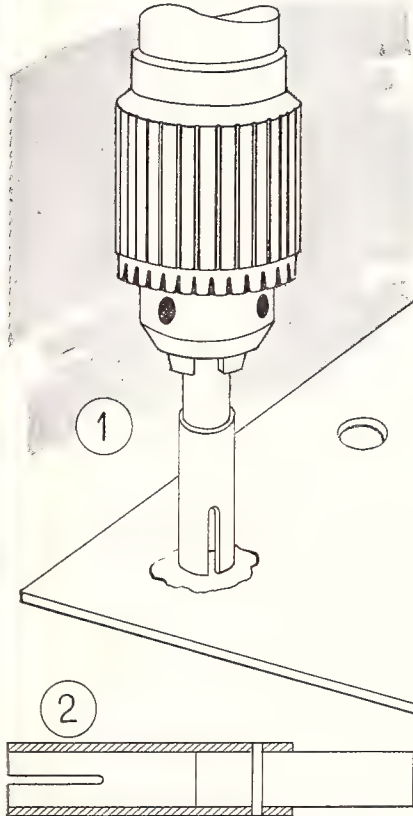
DRILLING holes in glass is easily accomplished with the simple set-up shown in the sketch below, fig. 1. The drill is made from a short piece of thin walled copper tubing, of the proper outside diameter with a steel shank driven in one end and cross-drilled and pinned in place as in fig. 2.

For the drill's cutting action, #100 grit Carborundum powder mixed with light oil or turpentine is used. This is placed on the glass in a small puddle where the hole is to be drilled. The drill press is best run at slow speed. When being fed to the

work, the drill should be lifted from time to time allowing fresh grit to flow into the groove as the cutting takes place. A fine slot sawed in one side of the tube will help feed the grit to the drill and will aid in the cutting action.

Danger of the glass cracking from pressure of the drill can be greatly reduced by placing a small piece of thick blotting paper under the hole being drilled. To speed work on heavy glass, after the hole has been drilled halfway through, the glass can be turned over and the drilling finished from the reverse side.

The above method of drilling holes can be used in cutting small glass discs for model locomotive headlights, ships' port-holes, etc., by using the same type thin walled copper tube drill of the proper inside diameter.



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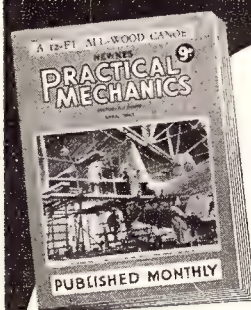
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1947 CATALOG

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BOX 15A

MECHANICAL TOY BANKS

SIX years ago, Louis H. Hertz was asked to write a book on mechanical banks by persons interested in the subject. This book has just been completed, and as one reads this fascinating history of the toy bank they cannot but marvel at the wonderful thoroughness with which he has approached the job, the amazing facts and startling material he has brought to light.

The subject has been thoroughly covered from the inception of the age of mechanical banks on through a comprehensive list of makers, advertising catalogs and colored lithograph cards, rare sample banks, the many problems of design and the making of master patterns for production and on down through hand painting and other phases and operations in their manufacture.

Various factors intervened in the publishing of the book and in the meantime, floods of inquiries were received. So great was the interest that it was decided to make the text portion of the book available in type written form. Presenting the book, in a limited quantity, using this format seemed justifiable in order to make this material available.

MODEL TRACTION DIRECTORY

THE Indianapolis Car Co. is preparing a directory for model traction fans which will include a complete listing of as many traction hobbyists as possible. They intend to include the individuals particular interest in the hobby, such as timetable or picture collecting, fan trips, etc., club affiliations, publications they read, a map listing all operating interurbans and street railway lines in the U. S. and Canada and also a list of all Model Traction Manufacturers (all gauges).

They feel there is a dire need for this information and that such a directory will be of great help to the hobby. Any fans desiring a listing are invited to send their name, address and a return stamped envelope to Box 220, Indianapolis 6. There will be no charge for the listing and directories will be available for \$1.00.

STEAM DRIVEN FEED WATER PUMP

(Continued from page 24)

"shove" the packing down into the gland. A long tooth out of a comb heated and bent makes a good, safe packing "pusher." Screw the pump gland pack nuts down just finger tight. Draw down packing nuts while pump is operating until just a very slight water leak occurs while pump is working. This slight amount of water leak lubricates the water ram and also floats any oil away. In full size practice a "swab" is used to lubricate the piston rod. This item consists of a spring bent to a sort of horse shoe shape and wound with hemp packing, then the whole

swab is soaked in melted tallow and when cool the swab is snapped onto the piston rod. It has been found in the small pumps, that enough oil is taken into the steam cylinder to provide adequate lubrication of piston and rod without the addition of the swab.

The drawings of the pump end would seem to be clear enough to need no special comment except to say that the ball check valve lift should be restricted to 1/32" and that all water should come to the pump through a wire gauge strainer for obvious reasons. The maximum operating speed for this pump is 275 strokes per minute, and it will lift water to pump at one foot easily and as a rule provide ample feed water for a 1" scale engine, depending, of course, on the boiler efficiency and the operative capabilities of the engineer.

The lubricator for the pump is of the hydrostatic type and with this part will complete the assembly of the water pump. The lubricator should be connected to the steam line direct, as close to the main valve chest as possible, and one filling should be good for at least four hours of average operation. A common fault in operating these little lubricators is to feed too much oil. A drop every minute is plenty and so you need only to "crack" the needle valve.

ALONG THE TINPLATE TRACK

(Continued from page 27)

headlight being mounted for wind-ups, and a wired socket for the electrics. There were several sizes of 0-4-0's and a 4-4-0 in O gauge, and an 0-4-0 and 4-4-0 in No. 1 gauge. These locomotives were made over a long period of time—they flourished roughly from 1910 to 1933—and there are countless minor variations and changes in the different castings. In some cases the name "Bing" is cast on the cab side, while in other models rubber stamped lettering is used.

Bing also produced several styles of trolley cars in clockwork and electric, but the smaller sizes are essentially European types.

Bing's electric outline locomotives present a fair range of specifically designed American types. Most of them are of cast iron, and generally patterned after the Ives electrics of the 1910-1918 period. Indeed, although they are lettered for either the NYC or Penn. RR, most of the cast iron models, regardless of gauge or size, carry the number "3238," the number of the first Ives electric of 1910. There are a number of sizes and types in O gauge, all 0-4-0's, in some cases differing only in minor alterations of the castings, and a very notable 0-4-4-0 in No. 1 gauge, considered by some superior in appearance to the Ives 3240.

Stamped metal electric outline locomotives were also sold by Bing on the American market, but in most cases these were their standard European designs. In the 1920's, however, they did bring out a 12 1/2" O gauge 4-4-4, which appears to be patterned closely after the American Flyer 3020 locomotive. This Bing 4-4-4 was used in sets with the No. 1 gauge cars mounted on O gauge trucks, and was proportioned accordingly.

NEW BACK ISSUE RELEASE

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RAILROADS—HO GAUGE		
Low-Wheeled 4-6-2 Pacific	June thru	Nov. '44
Semi-Diesel Railcar		Aug. '44
The "999" in HO Gauge	Sept.,	Oct. '44
1st Prize in HO Layout		Nov. '44
2nd Prize in HO Layout		Dec. '44
Open-End Gondola Car		Dec. '44
HO Draft Gear		Feb. '45
Three HO Layouts		Mar. '45
C & O Mountain Type Locomotive		Apr., May '45
Laying Out HO Pikes		June '45
Cement Hopper Car		June, July '45
Consolidation and Tender	Aug. thru	Nov. '45
"S P" A-6 Atlantic		Sept., Oct. '45
Pennsy T-1 Locomotive		Oct., Nov. '45
Powerful Electric Engine GG-1		Nov. '45
6000 N.Y.C. Loco & Tender		Jan. '46
Central Vt. Loco.		Jan. '46
C & O Hopper Car		Mar. thru June '46
Southern Pacific 4-4-0		Nov. '46
Build a Steam Shovel		Nov. '46
N & W Hopper Car		Nov. '46
Roundhouse		Mar. '47

O GAUGE		
Motorized Wrecking Crane		Sept. '44
Mother Hubbard 4-4-2		July '46
Suburban Double Ender		Sept. '46
Worm Drives		Nov. '46
Ten-Wheeler Loco		Feb. '47

OO GAUGE		
Six Passenger Cars		Nov. '44
War-Time Car Building, Express Reefer		Apr. '45
Double-Deck Sleepers		Apr. '45

PROTOTYPE DIMENSION PLANS		
Railroad Station (Plans in HO)		July '44
Coal Breaker		Nov. '44
"Old Time" Railroad Station		Dec. '44
Reading Camelbacks		June '45
Burlington's "Vista-Dome" Observation Car		Nov. '45
U.P. 800 Class Loco.		Dec. '45
Erie Caboose		Jan. '46
C. & N.W. Pacific 4-6-2		Feb. '46
B. & O. Mallets		June '46
Penn E-6 Atlantic		Aug. '46
Loco Traveling Crane (all gauge)		Oct. '46

RAILROAD MISCELLANEOUS		
Laying Out HO Pikes	April, May,	July, '45
A Model Saw Mill		July, Aug. '45
Bridge Warnings		Nov. '45
HO Trestle		Dec. '45
Simple Crossing Gate		Dec. '45
Standard Brick Signal Tower		Jan. '46
How to Build Tunnels		Feb. '46
Bridges		Mar. '46
HO Coal Tipple		Apr. '46
A Terminal Throat		June '46
A Big Interurban Layout		July '46
V & T Passenger Station		Aug. '46
Track & Scenery Foundation		Aug. '46
Three-Way Switch		Sept., Oct. '46
A Simple Interlocking Plant		Sept. '46
B. & O. Coal Tower		Oct. '46
Speaking of Water Falls		Oct. '46
Does Your Layout Have a Church?		Dec. '46
Two Rail Signals		Dec. '46
Where to Put your Feeders		Apr. '47
Master Control Board		May '47
Interlocking Without Relays		

TROLLEYS		
Model Cattle Car (Prototype Dimensions)		July '44
Shooting Trouble on HO Motor Trucks		Oct. '44
Trolley Wirework		Nov. '44
Interurban Depot & Substation		Feb. '45
Hudson & Manhattan Tube Cars		Mar. '45
Interurban Mail		Apr. '45
"Open Air" Elevated Railways		June '45
Yards, Barns & Terminals		July '45
Trolley Work Cars		Aug. '45
Trolley Snow Plows		Nov. '45
Trolley Front Ends		Dec. '45
Trolley Freight Service		Jan., Feb. '46

Power for Your Trolley		Mar. '46
Double Cab Work Car		Apr. '46
Pacific Electric Car (O Gauge)		May '46
Modeling Traction Interurbans		Nov. '46
Small Interurban Cars		Dec. '46
Interurban Diner		Mar. '47
Narrow Gauge Coaches		Apr. '47

LIVE STEAM		
Valve Gears, Gear Frames & Boiler Saddles (3/4" sc.)		July '44
Boiler Injector & Lubricator (1/2" sc.)		Aug. '44
Engine Pilot, Pilot Beam, Water Gauge (1/2" sc.)		Sept. '44
Single Cylinder, Steam driven Feed-Water Pump (1/2" sc.)		Oct. '44
Home-Made Cylinder Cocks (1/2" sc.)		Oct. '44
Atlantic Live Steamer, 3/4" scale		Nov., Dec. '44, Jan., Feb., Mar., May, June, July '45
1/2 H. P. Horizontal Steam Engine		Feb., Mar., May '45
Boiler Feed-Water Pump (1/2" sc.)		Feb. '45
Advantages of Inch Scale		Mar. '45
Cab, Coupler, Drawbar Pocket, Bell, Dome (1/2" sc.)		Apr. '45
Assembly & Connections (1/2" sc.)		June '45
Steam Driven Water Pump		Oct., Dec., '45, Feb. '46
Stationary Steam Engine		July thru Oct. '46

TINPLATE & SCALE CONVERSION		
Hi-Rail-Cantilever & Steel Arch Bridges		July '44
Suspension Bridges		Aug. '44
Adding Human Interest to Your Layout		Sept. '44
Wherefore "Hi-Rail"?		Oct. '44
Flag Stops		Nov. '44
"Combination" Stations		Feb. '45
Smooth Scaling		Mar. '45
Improved Tin Type Trucks		July '45
Realistic Tinplate-Cars		Dec. '45, Jan. '46
Tin-Types "Trued to Life"		June '45
Along the Tinplate Track		Monthly Feature

AIRPLANES		
"Tiger Meat" Class C Guide Liner (Millet & DeBolt)		Oct. '45
Dizzy "B", U Control (Greene)		Nov. '45
"Butch", Class C Guide Liner (DeBolt)		Dec. '45
"Moldy Molecule", Class B & C Guide Liner (DeBolt & Thomasian)		Jan. '46
"Thunderwin", U Control (McElwee)		May '46
The "Atomic", U Control (Shulman)		June '46
"Pirate", Control Liner (McGovern)		Sept. '46
Your Engines (Class A & B Survey)		Aug. '46
Your Engines (Class C Survey)		Sept. '46
Engine Maintenance & Operation		Sept. '46

ELECTRICAL ARTICLES		
Home-Made Telephone		July, Aug. '44
Battery Charging Hints		Aug. '44
Switch Motors from Doorbells		Oct. '44
Polarity Indicator		Oct. '44
A. C. Power Supply		Nov. '44
Radio Control for Model Layouts		Dec. '44
Crossing Gates, Electrically Controlled		Dec. '44
Wind Your Own Magnets		Dec. '44
Home-Made Rheostats		June '45
"Per-Mag" Switch Machine		Aug. '45
O Gauge Motors		Oct. thru Dec. '45
Universal Wiring Circuit		Apr. '46
Train Control Rheostat		June '46
Lighting Your Trains & Buildings		May '46
Electricity, "What is it?"		Jan. '47

RACE CARS		
Molding Car Bodies		July '44
Getting Ready for Racing		Mar. '45
Building a Model Race Car		May thru Nov. '45
How to Get More Speed		May '45
Trouble Shooting		Feb. '46
What Type Racing Car?		Mar. '46
Test Car #1		Apr. '46
Test Car #2		July '46
Rail Track Construction		May '46
Cable Track Construction		June '46
Wire Spoked Wheels		Nov. '46
Test Car #3		Jan. '47
Spark Setting Fixture		Feb. '47

BOATS		
Magneto for Boat Engines		July '44
"Misfilly", Prize-Winning Model Speed Boat		May '45

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BALSA wood. Generous Supply \$1.00. Price List Free. Kaysun Inc. Dept. MC. Manitowoc, Wisc.

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WANTED: Old toy Trains before 1925. Cash paid. Dr. Kowal, 1846 West 20 Street, Chicago, Ill.

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SELLING OUT Gas motors, kits, supplies. Bargains galore. Send for list. Art Kronfelt, 4 Leslie Road, Belmont, Mass.

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ZIRCONS, Mystic, genuine Siamese gems. Brilliance of diamonds. Treasured by ancient Egyptian kings as good luck charms. Stand diamond acid test. Diamond facet cut, unmounted. Wholesale \$1.50 carat. Sample \$2.00, two for \$3.00. Will mount in good rings at popular prices. B. Lowe, Dept. MC-9, Holland Bldg., St. Louis, Mo.

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10-LBS. JEWELRY . . . \$20. Mostly broken. Some perfect pieces. Send order today. B. LOWE, Holland Building, St. Louis 1, Mo., Dept. M.C.

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20 WATCH Movements broken for Student Practice Work, \$10.00. 3 Pounds Broken Costume Jewelry, \$8.00. 1000 Costume Jewelry Stones, \$3.50. LOWE'S, Holland Bldg., St. Louis 1, Mo., Dept. M.C.

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DOLLARS DAILY! Cleared \$1,900 in two months by mail! Write immediately! Loeb, M-11, Silverton, Cincinnati 13, Ohio.

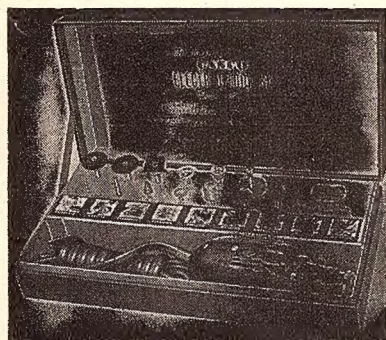
EARN CHRISTMAS money taking magazine renewals in spare time. Need no capital. Big commissions. Supplies—helps furnished. FREE Book tells how—write today. McGregor Magazine Agency, Dept. MC-4, Mount Morris, Illinois.

To a certain extent, of course, the present Trix, Ltd., of London, may be considered the successor to Bing, for Trix is largely owned and staffed by members of the Bing family and former Bing executives. It is therefore fitting to be able to announce at this time that we have been informed by Polks Modelcraft Hobbies, who will distribute the line, the Trix production, including their American type HO gauge freight cars, will be resumed this year for the first time since the war. Indeed, certain definite surprises are in store in connection with this line, and we shall look forward to passing them along as soon as we get a "green board."

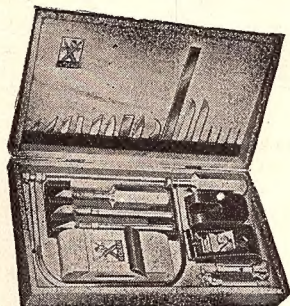
QUIZ ANSWERS

(From page 22)

1. Oilcan—Tank Car.
2. Grasshopper—Old type locomotive used on the B & O whose upright valve motion resembled grasshopper legs.
3. Hook—Wreckage crane or auxiliary.
4. Rattler—Freight train.
5. Cap—A device used for signaling. It is placed on a rail and when run over explodes.
6. Frog—Implement for rerailling cars or engines; also an X-shaped plate where two tracks cross.
7. Pike—Railroad.
8. Rabbit—A derail; an arrangement for preventing serious wrecks by side-tracking runaway trains, cars, or locomotives on a downgrade. Unlike regular sidetracks, the derail relatively ends abruptly on flat trackless land instead of curving back onto the main line. The term *rabbit* is applied to the device because of the timidity involved.
9. Wing—Setting brakes on a moving train.
10. Liner—Passenger train.
11. Scissor (scizzer)—Uncomplimentary term referring to yard or road brakemen and students in train service.
12. Butterfly—Note thrown (or handed) from train by an official to a section foreman or some other employee.
13. Clock—Steam gauge.
14. Saddle—First step of freight car, under the lowest grab-iron.
15. Flat Wheel—Car wheel that has at spots on the tread; also applied to an employee who limps.
16. Drill—Switch engine.
17. Wye—Tracks running off the main line or lead, forming a huge letter Y; used for turning cars or engines where no turntable is available.
18. Ladder—Main track or yard, from which individual tracks lead off. Also called a *lead*.
19. Kettle—Any small locomotive, especially one old and leaky.
20. Club—Hickory pole about 3 feet long carried by freight brakeman to help set hand-brakes, usually their only weapon of defense against hoboes.



Casco Motor Tool.. W/Acces..(Above)..\$22.50
Dremel Moto Tool Kit.. W/Acces.. 23.50
Burgess Deluxe Vibro Tool.. W/Acces.. 16.50
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Model Builders Anvil..... 2.00
Bunsen Burner..... 2.25
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Handee Motor Tool W/Acces..... 27.50
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No. 85 X-acto Tool Chest—3 all-metal knives; assortment of blades; saw; sander; stripper; planer; 2 drill holders; 10 drills; 6" steel ruler; complete in wooden chest, \$12.50. (Illustrated)
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Our stocks are rapidly becoming complete as production is increasing. Most all items for "O", "OO", "HO" are now available. Full line of Mantua, Varney and Walther's are in stock. Whatever you may see advertised elsewhere in this magazine, the chances are we will have it.

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Pittman Power Pack..... 17.75
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Kasiner "O" Stream. Pullman (Comp.)... 8.50
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Kasiner "O" Baggage-Mail (Comp.)... 8.75
Kasiner "O" Duplex Pullman (Comp.)... 8.95
Indianhead Switch Machine..... 1.25

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Varney.....\$ 1.90
Lehigh..... 2.50
I-C..... 1.35
Ideal..... 1.75
Mantua..... 2.95
VARNEY'S New "O" Gauge
B. & O. Ten Wheeler Loco Kit \$100.00
Lobough Berkshire Loco Kit, Complete 128.50

"HO" LOCO KITS

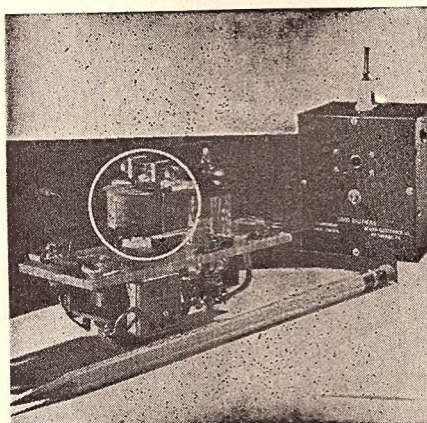
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Rogers "Ram".....B	9.95
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"OK" "29".....B	18.50
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Metal Ships—Tanks—Planes—35c

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PLUS MANY OTHERS

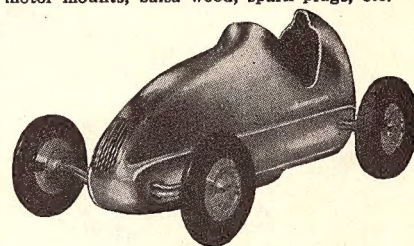
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